Games and learning: Having control and having the controller

In an age where education systems are anxious about how to merge established pedagogies with modern technology, games have emerged as a crucial piece of this challenge. Steven Johnson, author of Everything Bad is Good for You, summed it up nicely when he said:

... games force you to decide, to choose, to prioritize. All the intellectual benefits of gaming derive from this fundamental virtue, because learning how to think is ultimately about learning to make the right decisions: weighing evidence, analyzing situations, consulting your long-term goals, and then deciding. No other pop cultural form directly engages the brain’s decision-making apparatus in the same way.

I think everyone at some point finds that games really ‘push our buttons’; they are ubiquitous, pervasive and invasive. It is no wonder then that games, and the philosophy of games-based learning, creates challenges around their implementation in schools and other traditional learning spaces. Education is reaching the point when it will need to acknowledge that now, more than ever, playing is synonymous with learning. This is a difficult acknowledgement. Games in all forms have always struggled for legitimacy in the curriculum; they are not the focus, but often the reward for downtime and entertainment. Yet therein lies the reason games need to be acknowledged in the first place – they are compelling.

Games in schools

There are two main spheres to consider with games in schools: the first is to understand how games are designed to engage and what constitutes games-based learning, often referred to as ‘GBL’. It is worth following...
Games and learning: Having control and having the controller (cont.)

So why do people play games?
Ask the staff around your school about the games they play: mobile, console, computer, board, card and even alternate-reality games. Games are engaging because of their design, their ability to stimulate our imagination, and the innovation they create. It is also because games usually fulfil four basic motives: to feel powerful, to have control, to break rules and to explore a story. These motives also underlie the other emerging games-based strategy referred to as ‘gamification’, which has its supporters and critics. Gamification is the process of using game-design concepts or outcomes as a way to make programs or environments more playful. It often uses competition and rewards as key drivers. The Mozilla Open Badges project in the US (see http://openbadges.org) is one of the biggest examples set within a learning context. These kinds of initiatives add to the sense that wherever we are, we can now play games of all types and all genres. This kind of access means we are retaining more playfulness throughout our lives, often referred to as neoteny. When a medium is as pervasive as games, a school that bans them at every level can start to look out of touch with society, especially when governments, corporations and philanthropic organisations have already started to invest heavily in games-based learning and its research. It is even more so when there are large public exhibitions, festivals and international competitions staged around games. Children are designing, building, competing and collaborating on games outside of school, often within families who may be even more out of touch with how to shape their child’s interest in games in positive ways.

So if schools are in fact the places where real learning is shaped, then how control and risk are balanced becomes crucial. What a great challenge, right?

Digital age, digital solutions
It has been said that the digital age requires digital solutions. I think there are two responses to this. The digital age requires openness, trust and skills. In schools the digital age also requires savvy teachers and experimental libraries. Libraries have a big advantage when it comes to exploring the use of games over other conventional school spaces. They are open to all ages, have access to great collections, are multidisciplinary, can address ‘digital divides’ and are community- and culture-focused. They are also not driven by a strong curricula agenda, but by a pedagogical one. Ironically this has also made libraries a target for schools with stretched budgets and narrow vision. I have found that more than any other place, libraries understand the value of games – not just as a digital tool, but as a doorway into other channels of games literacy such as through blogs, wikis, reviews, films and even books. It would seem that games are having a greater influence on other mediums than the reverse. So in one sense gaming has created communities of homo zappiens, where homo zappiens are digital and school is analogue. Reading books is still a hugely popular activity for children, but more books are being delivered digitally. A great example is the work of Victorian developers Tin Man Games with their Gamebook Adventures.

There is one crucial element in successfully implementing games-based learning: the teacher (or teacher librarian). Like any aspect of education, it requires passion, insight and perseverance. With the right framework, games can be a powerful way to support the teaching of history, science, geography, English, art, maths and physical education. Be wary though: games are often a fusion of fact and fiction, using detailed factual environments and building fictional narratives inside them, such as Assassin’s Creed. The role of the teacher in the games environment is also crucial for another reason: that reflection is not instinctive in game play. Someone needs to help children draw conclusions and inferences from the games experience, in the same way you would if children were discussing or dissecting their understanding of a novel or film. The Victorian Department of Education and Early Childhood Development conducted games-based learning research trials with a number of schools in 2011, with one teacher stating that – ‘I will continue to use games as a vehicle for continued exploration and discussion rather than playing games in brief sessions and moving on. Games that have a narrative context provide a motivating setting for learning through exploration’. In this context though, it is a fine line between whether games are just another way for education to teach the ‘teacher’s content’.

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and whether they are an opportunity for children to redefine the meaning of learning in the 21st century. It can be a tussle of ‘edutainment’ versus empowerment.

Say you have a green light to start offering games in the school library, or setting up a games club, or offering games as a resource to subject areas. You appreciate the power of games. You have read about their advantages and you’re aware of the limits. What actions can you take to begin introducing games? Perhaps the better question is: What are you trying to solve by introducing games? You’ll need to consider this carefully. It also pays to think about the other aspects of implementation around the configuration of spaces, the required resources (for computers, consoles, or mobile devices), and of course, the games. Let’s look at some games that provide a good foundation for getting GBL happening and don’t come across as ‘point and click’. The main contender here would have to be Minecraft. It is a global phenomenon that a game with 16-bit graphics, and lots of blocks, could have such a massive player base. It is basically digital Lego. It is collaborative, highly creative and allows players to push the boundaries of design. Minecraft also has a strong education community – check out http://minecraftedu.com/.

As more schools begin to implement iPad programs, these devices are offering better games that encourage good learning. One of these is Scribblenauts. It is a playful problem-solving game using different environments where nouns, adjectives and verbs are the key to success. Some other great iPad apps include Osmos, Windowsill, Machinarium, WilderQuest and Toontastic. Of course the other angle at which to approach GBL is with games development. This can be extremely powerful because it requires students to understand the functions and narratives in games in order to design their own. There are some great software packages that schools have used to develop games such as Microsoft’s Kodu, Game Salad (good for mobile devices), Blender, Game Maker and MIT’s Scratch. Quite a few commercial games also offer in-game design and in-world collaboration, such as Little Big Planet, Lord of the Rings Online, Civilisation, or Quest Atlantis. These types of games create excellent simulation environments for all kinds of learning; they expand upon another aspect of games research called ‘Serious Games’. As games are integrated into learning and libraries, teachers discover that their anxieties were less about the students and more about their own perspectives: ‘I am not a major game player, not a programmer, not an ICT “geek”, but the entire process has been extremely valuable and rewarding. I have connected and engaged with my students in a completely different way and have built relationships with those kids who would have been labelled “difficult” to teach. It has been really rewarding – and fun!’ These highlight the positive impacts games can have in education, and with the introduction of the Australian Curriculum, games can address the blended learning opportunities across the General Capabilities.

So where does that leave the next steps?

There is a wealth of great information and great books out there on games-based learning. It is worth looking at the work of people like James Paul Gee, Katie Salen, John Seely Brown, and Jane McGonigal. If approached with the right mindset, and designed with sound pedagogical principles, games can unlock students’ motivation and imagination for a range of key learning areas. Some principles I developed myself with thinking about integrating games into libraries uses the acronym of PLAY as a guide:

**Participate** – turn your users of the library into participants in the life of the library. See them as producers of content and not just consumers, and help give the library human faces to the activity going on inside its walls.

**Learn** – learn to see patterns and not pieces in the physical and digital realms. Look up the term ‘apophenia’ as a way into understanding this perspective, but it might involve using technology to highlight the interconnections between games, other media and literacies.

**Activity** – be prepared to experiment with different activities in order to build communities of interest. Think about what the library offers your users that they can’t get at home, such as the social elements and great content.

**Youth** – engage with your audience on their level by using multiple channels to reach them. This might mean creating a student working group in formulating a plan, developing rich resources around games, or running student events about games (such as a debate or workshop).

From this perspective, education seems to be shifting. Education is not as much about memory, but about being memorable. Schools are using more measures to encourage playfulness as part of learning. While playing and learning might be synonymous processes, playing video games is often seen as physically passive. It is logically assumed then that no real progress or skill enhancement is happening. In sports

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Students built a library in Minecraft; acknowledgement of their values in the physical world influencing the digital world. Printed here with permission.
Games and learning: having control and having the controller (cont.)

we can see skills develop; in classrooms we test to prove it has happened. Educators are quickly realising that games can be a mode for real-time assessment and powerful feedback. The danger is that it becomes a way to cram more tests, competitiveness and analytics into education to satisfy a content-driven curriculum; gamification is often cast in this light. Rather, it should be a vehicle for meaningful achievements that generate pride, tangible progress and new connections. Perhaps it’s time to see your library not as an information service provider but as an ‘inspiration service provider’. A place where you can have control, and you have the controller.

References

Promoting reading and literacy

At Erskine Park High School Library (NSW) we have a range of programs to support literacy and learning. All programs are connected to students, staff, library staff and the teacher librarian, and require different groups to achieve the desired outcomes.

The strongest program that I use to support literacy in the library is the NSW Premier’s Reading Challenge (PRC) (products.schools.nsw.edu.au/prc/home.htm), which was introduced when I accepted my position in 2005. We started with seven students in 2004 who completed the Premier’s Reading Challenge and in 2013 we had 138 students who graduated with a certificate from this program. At Erskine Park High School Library I have initiated strategies to promote reading and literacy and it has been one of my priorities. It is introduced in
Promoting reading and literacy (cont.)

term one and then specific lessons are given on a regular basis. For example, all classes from year 7 to 9 have the opportunity to participate through logging their reading records online, as well as completing a hard copy which is placed in their English books so that their English teachers can gauge their progress. Every book that a student reads is rewarded by a Teachers Award (issued by the teacher librarian) and these awards contribute towards a major award and a special morning tea where parents are invited to celebrate their students’ success. Students who reach the halfway mark in the PRC are rewarded with refreshments from our school cafe. At the completion of the Challenge students are given lunch to celebrate their success.

Other groups in the school participate in the PRC. One such group is the students involved in the Peer Reading Program which is coordinated by the Learning and Support Teacher. Students are buddied-up with students from year 9 and they spend 15 minutes reading aloud three times a week. This is an opportunity for these students to be supported in reading for the PRC and it gives them an opportunity to achieve an award that may not otherwise be obtained. These students are guided in the selection of books by the teacher librarian who helps to maintain their reading list. Students from the Support Unit who are intellectually disabled participate in the PRC and appropriate texts such as picture books, easy-read and shorter books are made available. For those students who would find the literacy level challenging, the teacher librarian and the classroom teacher team teach to present texts from the list.

The PRC is based on the many positive aspects of reading and the enjoyment of reading. Categories of books such as picture books and easy-read are restricted, depending on the ability of the students. For example, there are two streamed Gifted and Talented Classes in years 7 and 8 and the number of picture books and easy-read are restricted as determined by the classroom teacher. If students forget the books that they have read we offer to look at their history of borrowing for the time frame of the Challenge. The NSW PRC website offers many strategies to coordinators who are organising the Challenge. The PRC strongly supports NAPLAN, a national initiative which measures the progress of students in literacy and numeracy.

In the library setting there is a designated fiction area where students are encouraged to read. There are lists of PRC books, as well as the books that are marked to indicate that they are part of the Challenge. I have deliberately tried to resource book series, as it is known that students enjoy them. I also include new additions to the PRC list, and interested students have been asked to select books that they would like me to purchase as additions to our PRC list.

In the wider community
Beyond the school environment, a local newspaper in conjunction with local primary and secondary schools organises what is known as the Star Reader Competition where students contribute book reviews based on books from the Premier’s Reading Challenge book list. This is an appropriate time to re-introduce the book review text type and the competition is open to junior years. Winning students receive a book prize or they have their book review published in the local paper. This has become an annual event.

Parents are notified about Reading Programs, in particular the PRC, through the school newsletters and the Library News which are issued online each term. The library achievements are mentioned in the annual School Report and once again the PRC features. I give talks about the PRC and our students’ progress at staff meetings that occur twice a term. This is a strategy to include teaching staff so they are aware of our students’ commitment to the program and what is required. Students and staff are informed about the PRC through assembly announcements and it is promoted in a positive way.

The PRC meets the wider reading outcome from the NSW English Syllabus for years 7–10 and all students in years 7, 8 and 9 are encouraged to participate. Those classes who do participate spend one lesson per fortnight reading and logging books for their Challenge in term one, two and part of term three. This is an opportunity for the teacher librarian to introduce the students to a selection of fiction and non-fiction books. Not all classes attend this, as it depends on the enthusiasm of students. We have ‘Quiet Wednesdays’ where reading is promoted and computer use is restricted. The Literacy Continuum for the Australian Curriculum has an expectation of ‘reading for sustained periods’ for year 7 students and by the completion of year 9 students should be able to ‘independently select and read an increasing volume and range of texts’.

The goals are to increase the number of students who complete the Premier’s Reading Challenge at our school, to have them read more demanding texts in a sustained manner and, most importantly, to enjoy reading.

![Image of Belinda Doyle](image_url)
In education, mobile devices have taken a strong hold – and for good reason. They are less expensive than computers, more portable, and far more responsive for impatient learners who demand instant access. There are thousands of apps designed with an educational focus, and many more productivity and content-creation apps that can be used effectively by students to facilitate and enhance their learning. Like all new technology, apps bring challenges to the school library – the centre in the school for resource and information management.

The library’s resource management role
The school library may be given the responsibility for managing the school’s fleet of mobile devices and is certainly a natural centre for managing the purchasing of apps. This is an opportunity for the library to develop another area of service for students and teachers and to reinforce the resource management role of the library. Managing apps can present challenges, as most mobile devices are designed to be owned and managed by an individual. When managed centrally, creative approaches are needed to ensure the device is set up to meet multiple users’ needs while complying with complex legal limitations.

Identifying apps
It can be overwhelming to keep track of recommendations for app purchases. Time-poor teachers often leave requests until the last moment, or request an app that meets the same needs as one already installed on school devices. One way to manage this is to create an online form that teachers can complete in order to request the purchase of apps. You can see an example of such a form here: http://tinyurl.com/requestappform.

Online forms may be embedded into webpages, meaning the request form can be built into the library’s online presence. Using a form such as this controls the flow of app requests, helps teachers to consider why they are requesting the app and how they are going to use it, and also gives library staff time to manage the app purchasing and loading process. Having a set time each week for app loading, and making this clear on the form, should go some way to streamline requests and ensure apps are ready for lessons.

Cataloguing apps
Once apps are purchased, the next step in effective management is to add these to the library catalogue. As well as providing access to the range of hard-copy resources that are physically stored on the library shelves, the school library catalogue should also be a doorway to a range of carefully curated digital resources, including apps.

By cataloguing apps, librarians are placing into the hands of users a way of finding quality apps that have been evaluated from an educational perspective and which, through the use of metadata, may be linked to other supporting resources and tools. Cataloguing apps also allows librarians to quickly identify whether an app has already been purchased and the device it has been loaded onto, which is an organisational boon for those managing large fleets of devices.

Curating and promoting apps
Of course, there also needs to be an awareness of the range of apps that are available on school devices. It is here that social bookmarking tools such as Pinterest and Pearltrees may be useful. These curation tools create appealing visual displays and are popularly used by students and teachers to manage information. A Pinterest board of apps related to inquiry learning (http://pinterest.com/kayo287/inquiry-learning/), for example, is a great way for librarians to advertise apps already purchased and how they might be used. Similarly, Pearltrees allows for apps to be categorised according to learning area or topic. (See www.pearltrees.com/kayo28/ipads-education/id5822446 for an example.)

Acquiring apps
One of the best things about apps is their relatively low cost. Although a few specialist apps can be expensive, on the whole paid apps range from $9c up to $10. In addition, there are many free apps available, some fully functional and others as ‘lite’ versions that provide a ‘try before you buy’ experience. The decision to choose the free or paid version is dependent upon the app. In many cases, choosing the paid version of an app results in a better experience for users. This is for a number of reasons. The first and most obvious is that, essentially, nothing is really free and, often, free apps are funded with advertising or require ‘in app’ purchases in order to reach full functionality. Secondly, some free apps allow the user to create content, but limit the ways of exporting or sharing the finished product. Other times, the app will watermark the content, or limit the number of times something can be produced.

Even though apps are relatively inexpensive, paying for apps to be installed on multiple devices can quickly increase costs. There is a misconception that one app may be installed on up to five devices; however, this only holds true for personal use, and schools must purchase one app per device. Accessing Apple’s volume licensing goes some way to reducing these costs for those using Apple devices (www.apple.com/au/education/volume-purchase-program), although not all apps are available through this program.

Who manages the purchases of apps, and how they are purchased, is also an issue that must be addressed. If apps are being loaded centrally by the library staff, then it makes sense that they should be in charge of purchasing. The budget for these purchases may be centralised, or may form part of the app-request process (ie teachers must ensure they have enough funds available to purchase apps that they request). Often, gift cards are used to remove the need for credit cards, which can add an extra layer of complexity. An added benefit of using gift cards is that these frequently go on sale, allowing users to save up to 20% on the cost of purchase.

Evaluating apps
Ideally, every app should be carefully evaluated before it is acquired to ensure the best use of school resources. When evaluating apps, there are three main aspects that must be considered: purpose, design and content, and process.

Purpose
Many game apps and subject-specific educational apps focus on very low-level thinking skills or are, at worst, time fillers. There are many lists of ‘recommended’ apps; however, quality teaching comes from using apps that have been carefully evaluated for their purpose and potential within a specific context. Educators know their students’ learning needs so, when considering an app’s appropriateness, it is important to know and articulate:

- the added value the app brings to the learning context
- how the app enriches and adds to the learning context
pedagogy being used
• the potential for the app to amplify learning through creation, remixing, publication and sharing
• where the app sits within Puentedura’s SAMR model (http://hippasus.com/rrpweblog) and whether the app simply automates or substitutes for a traditional learning task, or if it brings about truly informative and transformative learning that could not be achieved any other way.

(Appadapted from Tolisano, 2012)

Design
The design of the app is hugely important. The app should be intuitive to allow user independence. It should provide a secure and stable platform, with a variety of ways to share the content created. It is also worthwhile to check if student data can be stored, so that if an activity is interrupted partway through, work may be resumed from the same point at a later time. Ideally, the app will also be flexible in use, suitable for a range of learners, or for a range of learning experiences.

Content and process
Finally, the content and processes of the app must be evaluated. This evaluation will be dependent upon curriculum requirements, the classroom context and the experience of those working with the app. Criteria such as the authenticity of the learning, the connections to the curriculum and the opportunities for differentiation and personalisation should be considered. Many apps are excellent in providing rapid and effective feedback to learners, and allow learners to be creative and self-directed in problem solving.

There are many checklists and rubrics available online to guide this evaluation (some are available here www.pearltrees.com/t/evaluation-apps/id5822585). Schools may find that it is best to create individualised criteria to reflect unique school needs and requirements. One of the best ways of managing the information gathered from this evaluation process is to use an online form, so that evaluations are collected in the form of a spreadsheet that all members of the school community.

References
Indiana State University, 2013, May 24, Research Shows Students Perform Well Regardless of Reading Print or Digital Books bit.ly/studentsperform,

App evaluation checklist

**PURPOSE**

- Is the app suitable for the intended age group?
- Does the app form an integral part of the learning process?
- Does the app challenge students to engage higher-order thinking strategies?
- Does this app allow you to do something you were unable to do in the past?

**DESIGN**

- Can students launch and navigate within the app independently?
- Are the instructions included within the app helpful to the student?
- Is the design of the app functional and visually stimulating?
- Does the music/sound in the app add to the content of the app?
- Can more than one user account be set up?
- Does the app provide a variety of ways to easily share and publish learning?
- Is the content information error free, factual, and up to date?
- Does the app work with accessibility options like VoiceOver and Speak Selection?
- Does the app load quickly?
- Is the app stable (i.e. does not crash)?
- Does the app require students to share any personal or identifying data?
- Does the app contain advertising?
- Are in-app purchases necessary for the intended use of the app?

**CONTENT AND PROCESS**

- Are the skills reinforced connected to targeted skill/concept?
- Is feedback specific and does it result in improved student performance?
- Does the app offer flexibility to customise settings to meet student needs?
- Does the app address more than one learning style (visual, auditory, kinesthetic)?
- Is assessment/summary data available electronically to the student/teacher?
Make presentations pop with ThingLink

There are several online presentation tools allowing us to embed media. Tools like Prezi, Glogster and Nota have been around for a while. But there’s a new kid on the block called ThingLink (www.thinglink.com), which seems another useful online tool.

ThingLink enables users either to upload their own pictures, or upload from the web, Facebook and Flickr. Users can then embed tags — links, text and other media — into that image which others see by hovering a mouse over it. The finished ThingLink can be shared with friends, students and colleagues — via email or social media — or embedded into a class blog or other website. ThingLink also provides statistics on how many views, hovers and clicks a ThingLink gets.

ThingLink excels as a way to store multiple pieces of data in different formats, inside a small physical space. Let’s look at the example below:

The image shown below was originally generated as an avatar at BitStrips and saved as a jpg to my computer. I opened it in ThingLink and embedded links to some of my social media places. When someone arrives at that image, perhaps on my blog, they simply hover their mouse over it to see little icons representing my blog, Facebook, Twitter, Scoop.it and Pinterest profiles. (To help people looking at this in a print publication, I’ve annotated the original image because you can’t hover your mouse to see digital links.)

In an educational context, ThingLink encourages users to make a graphic and embed content to further explain points. ThingLink lends itself to achievable interactive graphic or even infographic creation. While many of us don’t have the Photoshop skills needed for a complicated infographic, ThingLink encourages a simple pictorial representation of more complex information. Unlike ‘real’ infographics, which are mostly ‘at-a-glance’, ThingLink allows readers to choose their level of further engagement.

Above, you will see a ThingLink I made as a way to succinctly share my favourite avatar generators with my audience at The Book Chook blog. If you were looking at a digital version of this article, you’d hover your mouse over each small avatar image within the larger image. This makes a ThingLink icon visible, showing you its name and explanatory text. Clicking would take you to each url of my chosen avatar generators on the internet. (Print readers will see an annotated image.)

Signing up for ThingLink is free, and a simple matter of logging in with Facebook or Twitter, or giving your name, email and choosing a password.

**Uses for ThingLink**

In an educational context, students need to think carefully to choose the best original image and links to embed when creating a ThingLink. They can demonstrate understanding of topics across the curriculum by curating content inside an image. ThingLink is simple enough for primary-aged kids, but has the potential for adding layers of complexity with high-school students. It also offers staff a new digital tool for recording instructions or condensing information they want students to read.

- A primary student could collect the urls of the blog posts they have written on the class blog and embed those links into an image of themselves/their avatar. If they then embed that new thinglinked image onto the class blog, parents can easily find their work. While perhaps this sounds like a mere organisational activity, they are also developing visual literacy skills and communicating purposefully with an authentic audience.
- Students could take photos on class excursions then add links to videos, sound, text and websites that have further information. Just imagine the year 10 excursion to Italy with links to sounds and sights that enrich the experience. Or a year 3 visit to the zoo with a link to the class’s favourite animal song and embedded text of children’s information reports.
- I like the potential in ThingLink for tapping into collaborative learning. Groups of kids can become ‘experts’ on a subject, researching it and embedding their links in a carefully chosen image. This sort of technology-enabled participatory learning enhances the development of many digital and visual literacy skills.
- Older students could use a map or a timeline as the main image, and embed links to other images, text and video clips to explain a geographical feature or sequence of historical events.
- Language students and staff can use ThingLink to build vocabulary resources. Images with lots of detail have potential for users to identify and define those details.
- Students could choose an image of a favourite book and embed a poll from a site like PollDaddy to determine how many others love the book. Once data is gathered, kids could use ThingLink to present their results. It is another multimedia alternative to a book report.
- ThingLink is a great way to compress information into a small space. If there is a class or school blog, students can use a photo or avatar of themselves and embed links to their hobbies, favourite bands, books, movies and sports. To take up less space, individual student images can be added to a collage.

Avatar created from BitStrips
Free, legal, ready-to-use electronic resources

When using electronic resources in class, teachers will be aware of the problems that have come with the increasing use of technology in schools, wi-fi blackspots in school buildings, internet dropping out, or often, students with no reliable internet access at home. There are some resources online which will allow students to avoid these pitfalls of our online society; one such service is Apple’s iTunes U – a way to legally download resources onto a computer or Apple device, and watch them anywhere, anytime.

Launched in 2007, iTunes U is a collection of lectures and lesson materials in written, audio and video formats made available from universities, libraries and other respected educational bodies worldwide. The iTunes programme itself is available for free download, is already standard on all Apple devices from iPod to iPad, and comes pre-installed in NSW Government school-student laptops. As such, teachers or students with access to an internet-connected computer can import iTunes U resources to their device once they have created their own account. Creating an iTunes account can be done quite quickly, and many students already have them for personal use.

The iTunes U range covers many different subject areas and interests. The 500,000 resources are divided into categories of age (e.g. K–12, University) and by institution (e.g. Library of Congress, Catholic Network Australia), as well as being searchable by subject and title. Resources are searchable by institution, age, subject or title, and once found can be previewed in iTunes by a teacher. If the resource is worth selecting, using the ‘copy link’ feature will allow the teacher to post the link on a website or email it directly to a class. This link will then open in iTunes, allowing instant downloads over the school’s network. In a single afternoon I was able to download several resources which would be useful for students who regularly use my library (see list on page 10). By using the ‘copy link’ button on each downloadable item chosen, you can copy and paste a web link which can then be emailed to students or linked on a web page, allowing easy access to the exact items which will then open in iTunes.

Once downloaded onto a device, any file can be shared between a user’s synced devices, and once loaded is available when the tablet, mp3 player or laptop has no access to wi-fi. As such, a teacher could give the students the links to open at school and a student could use the school’s internet to download, and then watch offline at leisure. This gives equitable access to resources to students who have limited or no internet at home, as well as allowing use in later lessons.

A prime example would be the availability of the Khan Academy’s videos for download. The Khan Academy is a champion of the flipped classroom, where students can watch the lesson concepts at home at their own pace, and then complete exercises either online or in class with teacher supervision. For a full explanation, the Technology, Entertainment, and Design (TED) talk where Bill Gates introduces Salman Khan is comprehensive (Gates 2011). Rather than using YouTube, which is not available to students in some schools, the lessons could be legally downloaded and watched at home, offline, replayed as often as needed or even used by a teacher in class. Full units on algebra, biology, chemistry, history and physics are already available. The links to these can be easily added to a web catalogue.

By making our school body aware of such resources we can save money on class generated as the ThingLink image and link to websites and other media that shed light on the speech, or provide the full text as video, audio or digital print. Students could combine ThingLink with a mind-mapping tool to help generate more ideas.

In the library, create interest in a topic, title or author with ThingLink. New titles and events can be promoted via this tool. It would make an interesting way to share information with kids in an author study. Links within a headshot image of an author could lead to the writer’s website, the publisher’s website, biographical information, a book trailer video, images of book covers and reviews or essays published on the school blog.

For more ideas on using ThingLink, go to:

- http://goo.gl/HYKmJ
- http://livepage.apple.com/

Make presentations pop with ThingLink (cont.)

- Teachers can use an image of a famous painting, an explorer or a piece of scientific apparatus to embed further information for students to explore.
- ThingLink is only part of a digital toolbox. Combine it with Worddle, for instance, where the student puts in part of a famous speech or text. Use the Wordle

![Image](http://livepage.apple.com/)
Free, legal, ready-to-use electronic resources (cont.)

materials, as well as take full advantage of the computers and high-speed internet already at our disposal. Most students I have spoken to already know how to use iTunes and frequently watch videos on their laptops or iPods, so we are taking the classes to them. Finally, it is also possible for schools to register to be content providers, and in the future we may see more school and system units of work or seminars appearing online.

Video lessons on subjects, such as algebra, are watched by students at home, and then questions answered in class with teacher help. The advantage of using iTunes rather than YouTube is that you only need to download it once to watch it several times; iTunes is available at schools, YouTube may not be; iTunes allows legal downloads, YouTube may not. If the student downloads the video at school, they can still watch it at home, but YouTube always requires internet access.

In summary, iTunes U has a wide variety of free, quality resources, legally available for download. These can be used once downloaded, away from internet access, and the links to these items can be easily passed on. Below is a list of some of the resources I found useful to my school’s students on only my first day of using the product.

English
A search for Gwen Harwood made available readings of her poetry, as well as academic commentary on her life and her works. These could be used by a student or teacher as supplemental material to class work.

Various institutions also have recordings of presentations by authors. Books and Beyond, from the Library of Congress, has an hour-long evening with Chinua Achebe, author of Things fall apart, available from https://itunes.apple.com/au/itunes-u/an-evening-with-chinua-achebe/id386017468.

Drama
Several plays and musicals are available online, which could be used by senior drama students as examples of staging, set, costume design or interpretation. Search for the ‘Waldorf Theatre’ or ‘McGill University’ to locate resources.

Internet safety
The USA Virginia Department of Education has tutorials on internet safety, designed for primary school children. Search for ‘Internet Safety Virginia’ to discover the resources.

The Catholic Network of Australia has a series of videos made for students on cyber safety which are also useful and available from https://itunes.apple.com/au/itunes-u/cybersafety-2011/id461596497.

Reference
Website and app reviews

**Best apps for learning**


Aimed at the parents of younger children, this selection of apps from News Limited covers a variety of subject areas including mathematics, science, geography, history and aspects of English. Details of costs and hardware suitability are included.

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**Turtle Diary.com**

http://www.turtlediary.com/

Preschool and K–2 teachers will find a wealth of material for their students on this website. Material includes educational games, puzzles, arts and crafts, experiments and videos categorised by grade and subject.

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**Learnist: Educational Technology**

http://learni.st/category/featured#/?category/1096-educational-technology

Similar in many ways to Pinterest, Learnist allows users to group online resources and share them with others. This particular link is to a subset for teachers and is focused on educational technology.

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**Too Noisy**

http://toonoisyapp.com/

By running this app on an iPad, and linking it to an interactive whiteboard, students will be able to self-monitor the noise level in their classroom. As the noise level on the meter increases, it is matched by corresponding changes in the background graphics.

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**Ocean Health Index**

http://www.oceanhealthindex.org/

The health of the world’s oceans have been scored on an index of 0–100 using a range of ten criteria including food provision, clean waters, coastal protection, carbon storage, biodiversity and tourism. The database is also searchable by country.

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**The Paper Baron**

http://www.awarduri.com/paperbaron

The website introduces the Paper Baron game which is available as an app from iTunes. The game was developed to heighten awareness of the Royal Australian Air Force and involves competitors using Google Maps to record distances their plane has flown, to ultimately become the ‘baron’ of a designated area or building.

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**50 best websites 2013**

http://techland.time.com/2013/05/06/50-best-websites-2013/slide/all/

TIME magazine has selected their 50 best websites for 2013. Some of these sites have direct relevance to the classroom, but most offer teachers useful insights into the evolving world of information technology.

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**ClassDojo**

www.classdojo.com

This application enables teachers to use technology to assist with behaviour management in their classrooms. By using an interactive whiteboard, a laptop, smartphone or a tablet connected to the internet, teachers can instantly reinforce positive-behaviour attributes tailored to their own class.

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**Digital storytelling sites & apps**

https://edshelf.com/profile/dkapuler/digital-storytelling-sites-&-apps

With 36 apps and sites to choose from, teachers will find a variety of programs to enhance creative writing in the classroom. The content includes digital-storytelling creators, video-editing programs, group-communications apps, animated puppets and a time-line creator.

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**VideoScience**


By viewing the videos of science experiments from VideoScience, teachers will be able to recreate the experiments for their students. With more than 80 videos available, the range of topics is diverse. The app is free and suitable for iPhones and iPads.

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**Greater Christchurch Schools Network**

http://gcsn.school.nz

Schools in the Christchurch area of NZ have created a learning network to share content, explore virtual classrooms and to participate in videoconferencing. The site also details upcoming workshops, new learning resources and apps, blogs and pertinent news.

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SCIS is more...

It has been a busy six months for the SCIS team with several major projects underway involving new cataloguing standards, a new curriculum, new staff and new types of resources.

SCIS Standards

The standards that govern SCIS cataloguing have been rewritten to reflect the change to Resource Description and Access (RDA). The SCIS Standards for Cataloguing and Data Entry (2013) document is available as a PDF download from the SCIS Help page: http://www.esa.edu.au/scis/help.html. Written primarily for SCIS cataloguing staff and library system providers, it runs to more than 200 pages. The sections most affected by RDA include:

- Section 2: Descriptive cataloguing
- Section 5: Standards for specific formats
- Section 6: MARC coding: Bibliographic records.

As SCIS is transitioning to RDA in stages, two new editions of the standard have been published. The 2013 edition reflects the changes implemented on 1 July 2013 and the 2014 edition contains the final version due for adoption on 1 July 2014.

Education Services Australia gratefully acknowledges the work done by Leonie Bourke as RDA consultant for SCIS and editor of the new edition of the standards. Thanks are also due to the SCIS Information Services Standards Committee, SCIS cataloguers and external reviewers Renate Beilharz and Ashley Freeman for their ongoing feedback over the extensive drafting process.

RDA in SCIS from 1 July

SCIS has consulted with library system providers in Australian and New Zealand school libraries and has decided to move slowly towards full RDA implementation. The first major change that libraries may notice is that RDA records contain three new fields: content type, media type and carrier type.

From 1 July 2013 to 1 July 2014 SCIS will produce hybrid RDA records that continue to:

1. use the GMD from AACR2
2. retain the 260 Publication field (rather than the new 264 field: Production, Publication, Distribution, Manufacture, and Copyright Notice.

Test records

A small number of test records have been added to SCIS so library system providers and SCIS subscribers can test any impact of the change in standards on their systems by downloading these records from the SCIS blog: http://scis.edublogs.org/2013/06/24/rda-update.

Please note that ISBNs have been removed from these records so they are not accidentally retrieved through SCISWeb or Z39.50. Normal SCIS records will continue to include the ISBN where available.

New Connections editor

This issue we welcome Meelee Soorkia, our new editor. Meelee comes from a diverse background in educational publishing, travel writing and food blogging. As Communication and Projects Coordinator, Meelee works within the SCIS team to ensure that communications and projects activities are highly relevant to school library staff and are of high quality.

Connections is committed to helping school library staff keep up to date with the latest in libraries, cataloguing, information services, curriculum and technology. Meelee would be pleased to hear from readers who have requests for particular topics, or from potential writers.

Thanks are due to Anthea Amos who looked after Connections and the Educational Lending Right project for several years. Anthea has left Education Services Australia to seek a life beyond publishing and projects.
Apps in SCIS

Apps form heading
It is a cataloguing principle that subject headings are used to describe the subject matter or content of a resource, while the format of a resource is described in the bibliographic record in a physical description field.

However, many library management systems do not provide a field-based search of physical description, which makes it very difficult for searchers to retrieve a list of apps. The same issue faced SCIS when we commenced cataloguing e-books, and the decision was made by ISSC to use E-books as a form heading. That decision is now being applied to the Apps heading and it will be added to all apps that are catalogued. Thus the subject heading will identify catalogue records for apps and works which are about apps.

Downloading catalogue records for apps
Apps do not have an identifier such as ISBN, so you will need to search within the SCIS Catalogue by subject heading, and then note the SCIS number for the apps you select for import.

If you have previously downloaded SCIS catalogue records for apps or resources about apps before this heading was introduced you may wish to either reorder the records from SCIS, or to add the Apps heading yourself to the records already in your catalogue.

Note that the SCIS Authority Files released in May 2013 contain the new subject headings, and are available for download from: http://scis.curriculum.edu.au/scisaf.

References

SCIS is more... (cont.)

As the number of books, videos and websites about the use of apps in education continued to grow, cataloguers recognised the need for a new SCIS subject heading to describe these resources. The heading Apps was approved during the first SCIS Information Services Standards Committee (ISSC) meeting of 2012. While there was some pressure to apply the more formal heading of Application software, the final terminology follows the instruction in the Overview and principles of SCIS subject headings (2002) to ‘ensure that the headings reflect contemporary Australasian-English usage.’ (p. 3)

Cataloguing apps
SCIS has also commenced cataloguing apps, and records are available for download and import into school library catalogues. This is an extension of our practice of cataloguing all resources used within school libraries, regardless of format. Thus over the years SCIS cataloguers have had to develop standards for cataloguing digital and streaming video, websites, learning objects, e-books and now apps.

Further discussion of why cataloguing digital content is an important role for school libraries has been part of the professional learning sessions delivered by Education Services Australia SCIS staff. Slides from these presentations are available in the SCIS blog post: ‘Access to digital content’, http://scis.edublogs.org/tag/digital-content.

The apps catalogued in SCIS come from a range of sources, and we are particularly grateful to Nigel Paull for his reviews in Connections, to reviewers and cataloguers from the NSW Department of Education and Communities’ Scan journal, and to key staff in jurisdictions working in this area and sharing their knowledge and expertise. The article by Kay Cantwell in this issue of Connections is an important one for school library staff.

SCIS will continue to refine processes for identifying and cataloguing apps. You can keep up to date by reading and subscribing to the SCIS blog apps tag: http://scis.edublogs.org/tag/apps.

‘Apps’ by SCIS, www.flickr.com/photos/schoollisatinf/9230859022/, Licence http://creativecommons.org/licences/by/2.0/deed.en

Apps subject heading
Appearing on the new subject headings list this issue is a very short new subject heading, which has involved a significant amount of deliberation and activity on the part of SCIS cataloguers. The Oxford Dictionary (2013) defines an app as ‘a self-contained program or piece of software designed to fulfill a particular purpose; an application, especially as downloaded by a user to a mobile device.’

As the number of books, videos and websites about the use of apps in education...
What John Marsden says about ELR

I’ve been talking about the Australian ELR scheme in speeches all around the world, as a model of public policy which emphasises justice and practical support of the arts. Writers for young people are so often financially disadvantaged – partly because our books sell for lower prices, so the royalties we receive are lower, but also because the bulk of our sales are generally to school libraries, where the books are heavily ‘consumed’, with no financial benefit to the author save the initial dollar or so he or she got in royalties.

It’s been incredibly supportive in an abstract sense and a practical sense to have regular ELR payments. They are a major boost to our incomes, but also represent recognition that writers have a moral right to receive a fair reward for their labours, when those labours are shared and enjoyed by so many readers in schools and other educational institutions.

New and revised subject headings

A summary list of new and revised SCIS subject headings is provided here. For the detailed lists of new and revised subject headings, see the SCIS website at www.esa.edu.au/scis/subject_headings.html.

In the summary lists, headings are marked:
* Existing allowed headings which have been updated with changes to references or notes
A Headings which have been updated with changes to references or notes
D Deleted headings
N New headings
U Previously allowed headings which have become USE references

Summary list

N Apps
Scope note: Use as a form heading for apps, as well as for works which are about apps.

U Burma

N Gun control
Scope note: Here are entered general and non-legal works on the control of guns. Works on the legal aspects of gun control are entered under Firearms -- Law and legislation.

N Myanmar
Note: Myanmar is now the official name

Social Media
Scope note: Use for works on those media where content is created by individual users in the form of video, audio, text, or multimedia that is published and shared in a social environment, such as blogs, wikis, podcasts, social networks, etc.

Soula Kipos
Cataloguing Team Leader, SCIS
Education Services Australia

Connections

Connections is a quarterly newsletter produced by the Schools Catalogue Information Service (SCIS), a business unit of Education Services Australia. Connections is distributed to all schools in Australia. SCIS is committed to publishing informative and useful material relevant to school libraries, helping library professionals keep up to date with the latest in information services and technology.

Submissions to Connections
SCIS welcomes submissions of articles to be considered for publication in Connections. Articles may range in length from 500 to 2,000 words. Work outside these specifications will be considered.
Please forward submissions and correspondence to connections@esa.edu.au and include your contact details.

Advertising in Connections
Contact SCIS for specifications and advertising rates.

Connections online
Current and past issues of Connections are available online at www.esa.edu.au/scis.

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Resources for classroom teachers

This page features highly recommended professional resources available through Curriculum Press that support teaching practice. Please visit the Curriculum Press website at www.curriculumpress.edu.au for a full list of titles and to order online.

Activate Inquiry: The what ifs and why nots
96 pp
Author: Jeni Wilson
Publisher: Education Services Australia
RRP: $34.95
SCIS no: 1547176
ISBN: 978 1 74200 548 5
Years: K–12

Activate Inquiry is a practical, how-to guide that talks you through the most challenging aspects of inquiry and offers advice on how to incorporate student voice, enhance engagement, improve questioning and teamwork, and help students set their own goals, be organised and take action. It also includes sections on using reflection, metacognition, assessment and record keeping to enhance learning outcomes.

Activate Inquiry features such as ‘Teacher alerts’ and ‘Tips for students’ to make key ideas easily accessible at a glance, and gives real insights into classroom practice by weaving quotes and compelling anecdotes into the text.

History – What a Drama!
88 pp
Author: Ann Parry
Publisher: Education Services Australia
RRP: $39.95
SCIS no: 1571151
ISBN: 978 1 74200 548 5
Years: 3–8

History – What a Drama! is designed for teachers of history looking for techniques to construct quality learning experiences for their students and actively engage them in reconstructing the past. It outlines various forms of role play, simulations and dramatic activities that are useful for covering broad historical themes. The book also provides practical examples of lesson activities, resources and assessment strategies.

Students will become completely absorbed in learning about what happened, how events were connected and how the issues affecting past lives were addressed, making immediate, personal and real historical connections.

Life’s Literacy Lessons: Stories and poems for teachers
96 pp
Author: Steven Layne
Publisher: Stenhouse
RRP: $31.95
SCIS no: 1607479
ISBN: 978 1 57110 988 0
Years: K–12

A well-loved classic, Life’s Literacy Lessons, is back in print by popular demand and now includes short stories as well as new poems. This poignant collection of stories and poems honours literacy educators for the often difficult and always essential work they do with students of all ages. From reading aloud to grammar, from handwriting to standards, Steven Layne highlights the tears and laughter, the challenges and rewards that inspire today’s teachers. Throughout the book, Steven reveals the events, words and thoughts that motivated him to capture his musings in verse and prose.

Starting with Science: Strategies for introducing young children to inquiry
160 pp
Author: Marcia Talhelm Edson
Publisher: Stenhouse
RRP: $41.95
SCIS no: 1604258
ISBN: 978 1 57110 807 4
Years: K–2

Starting with Science explores the big ideas surrounding inquiry-based science to assist science teachers thoughtfully plan for and implement a conceptual approach to teaching and learning science so students can engage in observation, questioning, predictions, collaboration, data collection and a deeper understanding of topics important to their lives.

Through numerous examples from classroom discussions, teacher commentary and children’s work samples, this book provides practical suggestions and models for beginning teachers as well as those who are fine-tuning their practice.

Visit www.curriculumpress.edu.au for a full list of titles
Inquiry-Based Exploration of Students’ Misconceptions

- Supports classroom teaching
- Increases student understanding of difficult science concepts
- Full teacher resources
- Develops critical thinking
- 10 Modules - 100 lessons
- Aligned to Australian Curriculum: Years 6 to 10

Science week special:
Order in August* to receive eBooks of your choice to the value of $350!

*Pro rata subscriptions available until end of Term 4, 2013.

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