iPod Touch

Research Report

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GLOSSARY

CC	Creative Commons is a United States based organisation which has defined the spectrum of possibilities between full copyright — *all rights reserved* — and the public domain — *no rights reserved*. It has released several copyright licences known as Creative Commons licences. These licences allow creators to communicate which rights they reserve, and which rights they waive for the benefit of other creators.
DEECD	Department of Education and Early Childhood Development
DRM	Digital Rights Management
ESL	English as a Second Language
ICT	Information and Communication Technology
IP	Intellectual Property
iPhone	The iPhone is an Internet-connected mobile phone designed and marketed by Apple with a flush multi-touch screen. The iPhone's functions include a camera, a phone and portable media player, text messaging, visual voicemail and Internet services including e-mail, web browsing, and local wireless connectivity.
iPod	The iPod is a brand of portable media players designed and marketed by Apple
iPod Touch	The iPod Touch is a portable media player and wireless mobile platform designed and marketed by Apple.
Nintendo Wii	A video game console with a wireless controller which can be used as a handheld pointing device to detect movement in three dimensions. A range of educational software is available.
Podcasting	Podcasting is the method of distributing multimedia files, usually audio programs, over the Internet, using syndication feeds, for playback on mobile devices and personal computers.
VELS	Victorian Essential Learning Standards
Vodcasting	Vodcasting is video podcasting i.e. the online distribution of video on demand and video clip content via syndication feeds eg. Atom or RSS enclosures, for playback on mobile devices and personal computers.
Web Apps	Web apps are software applications accessed via a Web browser over a network eg the Internet. Apple Web apps combine the power of the Internet with iPhone and iPod Touch technology on a 3.5-inch screen. 1700 applications can be downloaded to the mobile technology – games, educational tools, movie times, train schedules, favourite blogs, etc.
WWW	World Wide Web

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1 EXECUTIVE SUMMARY

Primary school children today use mobile portable devices as a matter of course in their lives outside school. While the gap between technology devices used in everyday life and those used in schools continues to widen, many schools have decided to trial mobile devices in an effort to keep pace with emerging technologies. Over the life of this iPod Touch project, more schools have moved to acquire some forms of mobile devices, to add to the repertoire of technologies available in classrooms. Teachers are becoming more aware of emerging technologies used by their students and are more open to trialling them in their classes.

This project on the use of the iPod Touch investigated students' attitudes to emerging handheld technologies, and examined the use of the iPod Touch in school settings, with emphasis on the impact on student learning, on teacher pedagogy, curriculum and assessment, and on external technical issues involved in implementing emerging technologies. Students provided their perceptions of mobile technologies for learning and provided a snapshot of what they expect from their schooling.

Three schools with different cohorts of students were involved in the project: Epsom Primary, a small, regional school; Courtney Gardens Primary, a large school in a significant population growth corridor; and Corio South Primary, a school with a significant English as a Second Language (ESL) cohort. All three schools have senior management who are committed to Information and Communication Technology (ICT) as an enabler of learning.

Teachers in the project targeted the iPod Touch as a device that supported their Victorian Essential Learning Standards (VELS) curriculum aims, such as the implications for literacy and numeracy development, ESL and creative media literacy. In each case, the teachers have demonstrated that they are confident users of emerging technologies and have integrated the iPod Touch into their repertoire of ICT devices.

Since this project's Interim Report in August 2008, the teachers have become more comfortable with the iPod Touch and have experimented with Web applications (Web apps) available for the device and new ways to use them in the classroom. Some teachers indicated that they are really only just beginning to discover the ways in which the devices can be used for learning.

It is envisaged that other schools and teachers wanting to implement handheld devices as an adjunct to the repertoire of learning technologies available in the classroom, may learn from the experiences of the three primary schools involved in this research, and plan their implementations based on knowledge gained from the outcomes of this project.

1.1 Key Messages

"It's like your imagination in your pocket." (Year 3 Student)

This project has made constructive discoveries that can be applied to the use of emerging technology and 1:1 laptop initiatives in the classroom.

Handheld devices have stimulated both teachers and students to work creatively together to improve literacy and numeracy. The use of the iPod Touch has encouraged student interaction in blogs, podcasts and Web pages, and it has been particularly important in encouraging reluctant and ESL learners. All three schools have plans to purchase handheld devices to extend their integration as natural learning tools for today's students.

Key enablers of effective implementation of emerging technologies include wireless connectivity, technical support and collegiality. With these in place, teachers can focus on their core task of using the technologies to improve learning outcomes.

2 RECOMMENDATIONS

On Planning and Implementation

Develop technology projects that focus on the power of visual media and social networking, as they significantly influence literacy, numeracy and life chances for disadvantaged students.

Ensure that innovative projects using emerging technologies provide adequate time for teachers to become familiar with the devices and their functionality, prior to introduction and implementation in the classroom.

Identify clear, precise learning goals that support a culture of learning and skill development in the classroom, as essential for effective implementation of emerging technologies.

On Teaching and Learning

Promote mobile handheld devices, like the iPod Touch, that stimulate learners to *want* to learn and provide a means to pursue knowledge independently.

Introduce handheld mobile devices like the iPod Touch to support personalised learning and to assist literacy and numeracy in ESL, 'at risk' and reluctant learners.

Promote a limited number of handheld devices per class, as opposed to 1:1, to encourage teachers to engage with group work or team work as a successful pedagogy.

Introduce the iPod Touch to classrooms as a tool to stimulate teachers to rethink their pedagogy by considering *how* to integrate portable devices with learning functionality in curriculum activities.

Develop curriculum plans that involve greater learner autonomy and independence when using handheld mobile devices in the classroom.

Integrate mobile devices with other technologies (such as interactive whiteboards, laptops, Nintendo Wii) for purposeful learning in the classroom, so they are not just add-ons.

On Professional Learning

Provide greater access to well-structured professional learning sessions to promote widespread teacher ICT capacity and confidence.

Promote online collaboration as an effective mode of teacher networking for sharing knowledge and the transfer of good practice.

On Technical Support

Include a budget item for DEECD technical support at the school or cluster level to better support emerging technology projects.

Conduct a technical needs analysis, prior to project start-up, of issues that may impact on successful implementation of innovative projects.

Provide *one* identified technical conduit within the ITD Branch of DEECD for critical issue liaison involving emerging technology projects.

3 INTRODUCTION

This is the final report of a project that focused on the use of the iPod Touch in a mobile learning context in primary classrooms. This project sought to investigate the potential of the iPod Touch as a learner-centred device in a practical learning environment. Teachers were encouraged to adopt creative approaches in their teaching practice and to work on strategies that may be articulated to others seeking to use mobile technologies for learning.

This research project investigated the potential of the iPod Touch to engage and stimulate students and teachers in a cross curriculum approach embedded within the Victorian Essential Learning Standards, and to improve teacher practice through the use of mobile devices to stimulate teacher reflection and transform their teaching.

The project has provided insight into the pedagogy, technical issues and professional learning needs of teachers as they integrate a new technology into their classroom. An Action Research model was employed by the teachers, focusing on the impact of the iPod Touch on teacher professional learning, student learning, curriculum and assessment strategies and associated technical issues.

3.1 Scope of the project

The specific objectives of the research project were:

- to gain an insight into the pedagogy, technical issues and professional learning needs of teachers as they integrate a new technology into their classrooms
- to develop teaching, learning and assessment resources which can be shared with the broader educational community and which provide leverage for deeper understanding and investigation

The overarching research question was:

> *How can the use of handheld technology (iPod Touch) contribute to changes in pedagogy used in teaching, learning and assessment?*

The sub-questions included:

- What models of professional learning best support teachers to maximise their use of the iPod Touch as a teaching and learning tool?
- What are the privacy/ethical issues which need to be addressed to ensure safe and ethical use afforded by the iPod Touch technology?
- What are the elements/characteristics which are required to ensure sustainable use of the technology, i.e. the move from emerging to embedded at the school level?

3.2 Methodology

The meta research methodology includes quantitative and qualitative approaches including:

- student and teacher online surveys
- interviews with participating school principals and teachers
- observational data
- review of documentation, including teacher curriculum samples, student work, Action Research projects, reflective blogs/logs, student and teacher developed vodcasts.

Teachers, as co-researchers analysed their own student data, to create their own research agendas and to develop resources and expertise as a group of online professionals. They have also presented their research experiences to each other in online Elluminate *Live!* sessions.

Their research has been channelled into this report through a series of interviews and online web spaces where experiences, difficulties and successes have been shared.

Students and teachers were surveyed online before the project commenced to establish quantitative baseline data on their knowledge, skills and use of emerging technologies. An exit survey at the close of the project has provided a comparison of skills and attitudes to emerging technologies for learning. The teachers were interviewed in depth and as a culminating activity have developed further action research cycles via reflective blogs and online conversations.

It is intended that the findings will be disseminated via ePotential, through presentations to conferences, regional personnel, including Teaching and Learning Coaches and Ultranet Coaches, and via Knowledge Bank New Generation.

4 ACTION RESEARCH PROJECTS

The teachers in the three schools developed Action Research projects, around the use of the iPod Touch in their classes, that were to link closely to curriculum objectives. An essential question to guide inquiry was developed as the focus of the Action Research projects, supported by a rationale and information about the student cohort and school background. Each school's approach is described below, with rationale and background information taken from their Action Research outlines.

4.1 Corio South Primary School

Essential Question to guide inquiry

How can iPod Touch improve our student outcomes in Literacy?

Rationale and Background Information

'Our Annual Implementation Plan for 2008 target is to lift teacher assessment of Grade Six students against Victorian Essential Learning Standards (VELS) at or above the expected levels in both Literacy and Numeracy.

- Reading 38% to 50% by 2008
- Writing 42% to 55% by 2008
- Speaking and Listening 48% to 65% by 2008
- Number 41% to 55% by 2008
- Measurement 59% to 65% by 2008

We need to engage all students in Grade Six in purposeful and powerful learning. The two Grade Six classes totally 47 children undertaking this Action Research consist of:

- 7 English as a Second Language – new arrivals
- 4 English as a Second Language (Index) – funded and arrived more than 12 months ago
- 17 Students at Risk - defined as any students working 12 months or more below their grade VELS level
- 9 Extension students needing further engagement, although not necessarily above VELS Progression Point 3.75
- 8 Extreme behaviour students
- 9 Difficult to engage boys
- 4 Koori students
- 7 Students regularly absent or late arrivals to class.

With the Corio South School Sports and the 2008 Beijing Olympics being held in term three, we have identified an area for our students to engage in authentic work, purposeful learning, tolerance of others, problem solving and critical thinking skills that will connect within our school community and beyond. Using the iPod Touch students will engage in a constructivist approach to learning and work on an open-ended project that collaboratively explores the task through a range of approaches. Whilst our focus question is to improve student literacy using

the iPod Touch, we will have a focus on healthy eating and encouraging everyone to eat nutritionally and increase our fitness in preparation for our sports being held in Term Three.'[1]

4.2 Courtney Gardens Primary School

Essential Question to guide inquiry

How can handheld devices (like iPods) improve student outcomes in writing, particularly non-fiction writing?

Rationale and Background Information

'The staff at Courtenay Gardens Primary is very committed to providing our students with the latest technologies, especially if they can bring excitement, fun, and new learning to the classroom. When asked by the eLearning Unit whether we would be interested in trialling the new iPod touch at our school, roughly one third of our classroom teachers immediately volunteered to participate in the project. This is despite the fact that very few of these teachers had ever held an iPod before the trial.

We were confident in our students' ability to quickly adapt to using any new technology-driven device, and we knew that any shortcomings on our part could be easily made up by their fearless approach to mastering the device. With an ever increasing trend towards information-on-demand, and smaller, one-to-one portable devices, we wanted to investigate whether these devices could have a noticeable impact on student learning, and whether we could see them used on a wider scale across the school.'[2]

4.3 Epsom Primary School

Essential Question to guide inquiry

How can the iPod touch be used to enhance teaching and learning and support a student centred classroom?

Rationale and Background Information

'In 2007 Epsom Primary trialled the use of the iPod Nano and the Nike sensor kit as a motivator for student physical activity and fitness development. The trial was successful in both areas with the students being motivated to run and becoming fitter through the use of the iPods and Nike sensors. This was evident by the increase in the distance run and times of the runs by the children. Students could run further and in shorter times by the end of the trial period.

The iPod touch was seen as the next step and with the extra features of movie playing and Internet access we were very willing to accept the offer by the eLearning Unit to participate in this iPod Touch project. We have been considering the idea that today's students are digital learners and we intend to find out if the iPod Touch can assist children to learn through digital delivery of content.

Teaching practices in the upper primary school have been traditional and teacher-centred and we would like to attempt to move to a student-centred learning environment via the use of the iPod Touch.'[3]

[1] Tower, B. Action Research Plan, Corio South Primary School
[2] Balliet, S. Action Research Plan, Courtney Gardens Primary School
[3] Ashby, J. Action Research Plan, Epsom Primary School

5 IMPLEMENTATION

A significant amount of time, imagination, curriculum innovation and technical expertise was invested by the participating teachers in using the iPod Touch in their curriculum activities. In most cases, the teachers already use a variety of ICT in their classrooms and attempts were made to weave the iPod Touch into activities in an integrated way, alongside regular ICT facilities.

In the early phase of implementation, the teachers spent a great deal of personal time getting to know the iPod Touch, using it for their own purposes, developing learning activities for students, and most importantly, finding out how to integrate it with their school network. The technical issues were difficult for all, and insurmountable for one school, with the result that all three projects were implemented slowly, given the lack of timely advice available from DEECD's Information Technology Division. Regional and school Technicians worked on solutions for providing connectivity for the iPod Touch, while teachers developed alternative ways to use and integrate the devices into their programs.

In this project a number of professional learning activity days were scheduled. The project commenced in March with a workshop at Coburg Senior High School where DEECD's eLearning Unit provided 8 iPod Touch devices for each school. As an introduction to the project requirements, the eLearning Unit provided activities for the teachers on project planning, action research and how to manage a research project that would encapsulate each school's curriculum direction and school or community goals. Apple Computer Australia provided an initial training session on the iPod Touch covering basic familiarity and functionality.

The teachers spent time getting to know the devices and learning how to use the iPod Touch as a personal device before contemplating how to use them in classes of 30 students. With the technical issues already becoming evident as to how to integrate them into the schools' networks, the teachers introduced the devices to their students in a variety of ways. Some commenced with familiarisation activities while others set the students research activities requiring them to demonstrate in a persuasive essay why the iPod Touch should be included. In one school, however, they were not utilised immediately because they could not be connected to the school network, and advice from DEECD's ITD branch was not forthcoming.

A second professional learning day was conducted on using Kahootz Xpressions on the iPod Touch. The teachers became more acquainted with each other and, although still daunted by the task ahead, began to share ideas and collaborate on a project blog. As time passed, teachers grew in confidence and, with the launch of the iPhone mid year, many web apps became available for the iPhone and iPod Touch, opening up new approaches to using the devices for literacy, numeracy, research, teamwork games and so on.

Throughout the project, a blog was used for recording reflections, problems, solutions and celebrations. Resources were also uploaded to the blog to enhance the sharing of practice. Google Docs was another mechanism whereby documents were collaboratively developed by teachers within the project.

A third professional learning day enabled the teachers to gather their research data, complete action research reports and organise student project samples on websites and blogs.

A final collaborative online session for sharing classroom outcomes and teaching practice was conducted using Elluminate *Live!.*

6 CASE STUDIES

The following case studies describe what has happened over the life of the project, including the development of teacher skills and student activities in the classrooms.

6.1 Corio South Primary School

Corio South Primary School is in the outer suburbs of the Geelong area located near a large industrial area and caters for a large cohort of ESL and lower socio-economic students. A significant proportion of the students in the Year 6 classes are recent arrivals in Australia; approximately a third of the students are non-English speaking with refugee backgrounds. A further significant cohort are 'students at risk' performing below their capability; the disengaged; those with extreme behaviour; chronic absenteeism and those late to class.

Teacher profile

In the pre-project surveys Teacher 1 assessed herself as a 'confident' or 'expert' user of technology applications, who in the post-project survey has moved from 'confident' to 'expert' in presentation software, digital animations, blogs, wikis and podcasts. Formerly self-taught and having learned skills from off-site courses, she has extended the way she learns about technology from family and students. From planning to introduce new ICT to her students, she now regularly includes in her repertoire presentations, multimedia, Internet research, digital photography, blogs, wikis, podcasts and mobile handheld devices.

Teacher 2, initially assessing herself as 'confident' or 'with some experience' in most technology applications, has now become 'expert' in word processing , presentations, email, digital learning objects and mobile handheld technologies, and has become a 'confident' user of digital animations, blogs, wikis and podcasts. She is generally self-taught and learns primarily from colleagues, family, friends and students. She has increased the repertoire of ICT she uses with her students from the basic applications to include regular use of email, Internet research, blogs and wikis.

Achievements

Corio South's essential focus was to examine how the iPod Touch can improve student outcomes in literacy, a whole school focus for a school with a challenging student cohort. In order to do this, the teachers developed three overarching aims:

- to use the iPod Touch to motivate, enrich and extend learning opportunities for students in an inquiry based classroom environment
- to use the iPod Touch in a purposeful way to '…tune in, find out, sort out, go further, draw conclusions, reflect and take action on learning' (Murdoch and Wilson, 2007)[4]
- to have students experiment, communicate, collaborate, create, solve problems, and broaden their knowledge using the iPod Touch.

During the first term with the iPod Touch devices, the teachers familiarised themselves with the functionality as a personal device, introducing them slowly to the students, and gathering ideas from the students as to how they might be used for learning. This approach became the hallmark of the implementation at Corio South where the students used the devices as one tool

[4] Murdoch, K and Wilson, J (2007) What is inquiry Learning? http://resourcebank.sitc.co.uk/Resources/Priority2/2Noumea/NoPr_T006InquiryLearning.pdf

among a whole array of ICT – interactive whiteboards, desktop computers, digital still and movie cameras, Nintendo Wii and so on. Students were engaged in assessing and developing learning uses and applications for the devices from the very outset, including researching the impact of mobile technologies, copyright, privacy and ethical use.

The teachers trialled the iPod Touch in a wide variety of classroom activities, focusing on improving students' reading, writing, speaking and listening. After careful exploration/discovery of its functions and possibilities, the devices were carefully integrated as tools in students' everyday learning. The teachers developed their term planner and purposefully integrated the iPod Touch where appropriate, as a natural tool for learning, with the result that the iPod Touch functions had a much greater role and impact on the final term's curriculum objectives. The many refugee children in the classes were eager to use the iPod Touch and lessons were carefully planned to help their understanding of English using the iPod Touch, to test its effectiveness in the classroom setting. The Term Planner can be found in Appendix E.

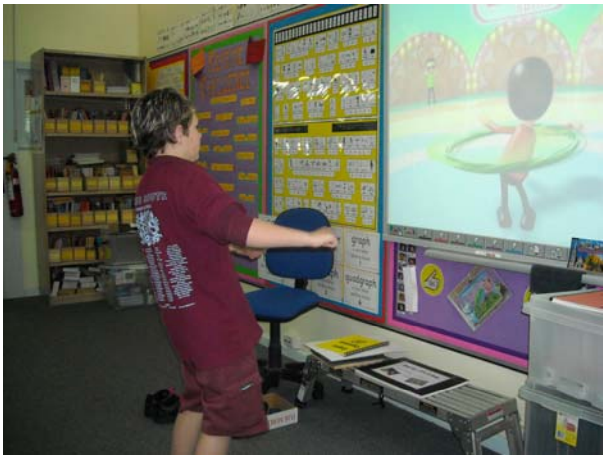
Reading activities

Online books were researched to cater for a large percentage of children achieving well below VELS standards. Since most had to be bought, it was disappointing that sites including http://www.woodlands-junior.kent.sch.uk/interactive/onlinestory.htm could not be accessed on the iPod Touch. iTunes Web Apps recent developments have assisted Corio teachers to provide online books and literacy games. With students needing extension, *The Time Machine* by H.G. Wells was downloaded through Stanza, an electronic book site, limited to books that do not have any Digital Rights Management or whose DRM has been removed, but a wide range suitable for upper primary schools is available.

Students have listened to podcasts by favourite authors including Graeme Base, Terry Pratchett and Andy Griffiths downloaded from the ABC website. The teachers indicated that currently, newspapers online have too many pop-up windows for reading in primary classrooms. They developed a Grade Six web page where children can access reading sites and share their work.

Internet research on the iPod Touch was enabled through EduPass and an AirPort Express wireless station. Students researched the Nintendo Wii to assess its benefit to literacy programs. The Wii has the ability to keep records of activity and this information was used collaboratively with literacy work. The Wii Sports, Mario and Sonic at the Olympics and Wii Fit, stimulated discussion, reading and writing by providing authentic contexts for collaboration between students.

Photo: Using the Nintendo Wii



Map reading, search and direction activities on the iPod Touch provided successful reading activities. Personal learning blogs were developed and students were encouraged to read and comment on each others' blogs, and to visit other children's blogs around the world. Students also published their work using Keynote which was uploaded to the iPod Touch for others to read and share. Other reading activities loaded to the iPod Touch included Weekly Literacy Circle meetings and Web apps 'This Day in History' and 'Did You Know'; interesting facts about history and general information.

Writing activities

The iPod Touch facilitated many genres of writing at Corio South including writing for information, procedure, recount, explanation, poetry, persuasion, debate, narratives, responses, lists, description, letter, email, report, invitation and news. Students wrote learning reflections on the use of the iPod Touch in their Inquiry Books and then moved to commenting on their individual blogs.

As an introduction to the Nintendo Wii, the students were required to research the Wii for homework and write a persuasive letter explaining how the games console would improve their literacy. The letters were then scanned and placed on the iPod Touch for students to share their work. iPhoto and iMovie were used to record excursions and school events, which were then embellished with students adding written explanations. The visual record along with the written text was beneficial particularly for the Karen refugees who rely so much on visuals to assist their understanding.

Students also used the following Web apps to assist their writing:

- Check Word for editing their written work
- Blanks for extending vocabulary of high achievers
- Brain Lantern for discussion, language and writing
- iPhrase for ESL students and those who have difficulty with sentence construction
- Jumble Solver for solving anagrams
- Word Warp as an anagram game with a time limit
- Spell Number for improving spelling of numbers
- Dictionaire for word comprehension.

Images: Grade 6 web page and I Touch Project blog

Speaking and Listening

Critical, creative discussion and reflections were enabled by the use of illustrations, movies and animations on the iPod Touch devices. Students interacted with each other in a lively manner when being taught the basics of essential applications for the iPod Touch such as Kahootz, Comic Life, Keynote, Rubrics, Garage Band, iTunes, iPhoto and I Can Animate.

Podcasts for the iPod Touch such as Harry Potter and Hannah Montana created animated discussions on copyright, where students were assessed at identifying opinions of others, proposing relevant viewpoints and extending their ideas in a constructive manner. Students were also excited by the use of Word Lite Party Web app, similar to a game of charades. Students planned a debate which will be developed into a podcast and loaded on to the iPod Touch as a listening activity.

Copyright issues prevented Corio South teachers from placing music onto iPod Touches, however, students created music from Garage Band and uploaded their creations onto the devices. Research on the impact of music on children's learning[5] plays a large role in the aspirations of Corio South teachers. According to one of the teachers,

> *Many of the Corio South students are below their VELS standards in English, often display excessive fidgeting, are easily distracted, have difficulty focusing and following instructions or daydreaming. It would be good to follow up on music assisting student learning.*

The following outcomes were achieved using the iPod Touch as an integrated ICT tool, used by students as and when they needed, amongst the array of other ICT in the classroom.

Table: Corio South Achievements with iPod Touch

Focus	Activity	Outcomes
Initial discovery learning	Students initial discovery of functionality and uses	List of discoveries Boys and Girls Movie
Reading and Writing	Keynote – Quick Time	Students developed a Mystery Story 'Old Boots' developed by reluctant reader and writer
Reading	Movie	Movie of Literacy Circle Meetings
Writing	Persuasion Letter for iPod learning	Students developed a persuasive essay on use of the iPod Touch for learning
Writing	Podcast Jingles	Green Spaghetti jingle Jimeon jingle
Writing	Emailing from iPod to fitness expert during Olympics.	Students sent and received emails from Ben the Fitness Coach.
Writing	How will the Nintendo Wii help literacy? Permission to use Wii letters	Children were asked to complete this work from home. iPod Touch was a major help to improve our homework statistics. Student 1 struggles with writing neatly & convinces teacher that it will improve his work – it has! He has never handed in homework before. Student 2 – specific for literacy ESL student with assistance – emphasis on technology and social aspects.

[5] Daniel Reit and Dr. Patricia Chiodo (2006) *Implications of ADHD Research on Music Education Practices*; Nina Jackson, *Music and the Mind*; Chris Boyd Brewer, *Music and Learning: Integrating Music in the Classroom.*

Focus	Activity	Outcomes
Writing	iPhrase web app for ESL	Using iPhrase, ESL students take photos and email a sentence.
Speaking and Listening	ESL computer draw and discuss pictures. Keynote to Quicktime. (Photo and Movie)	ESL student wins Sprockets and Flares (Geelong ICT competition) with illustrations. Only began using computer at start of this year. He doesn't speak much and his favourite word is "no". When asked by the announcer if he based his picture on the announcer's good looks he was able to respond with his favourite word. His English is steadily improving!
Speaking and Listening	OLE Movie	Student 1 – developed a movie 'Rohan of Rin'
Speaking and Listening	Book Reports podcasts	Currently under construction
Speaking and Listening	Debate Movie	Currently under construction
Speaking and Listening	Interview podcast	Interview of older person about food and fitness
VELS	Kahootz -English, science, geography, health, thinking, communication, media, music, interpersonal and ICT	Group of reluctant girl ICT users develop a Kahootz Xpression 'Cadel is our Hero'. Winner in Sprockets and Flares ICT Competition in Geelong
VELS	Inquiry Learning	High Jumpers Not the best example but a good first attempt by child.
Homework and VELS	Keynote – Quick Time Movie	Invent a new game. Example of improved homework.
ESL	Procedure Movie	Karen students developed ESL movie on Washing Hands with sub-titles
ICT	Animation	Students developed Clayman
Research	iPod for a day Homework/blog task	Students worked on Keynote, Word, Blogs and email
Assessment	Movie Assessment ICT and VELS	Movie Rubric Planning fits in with VELS – ICT samples to be collected for future benchmarking
Curriculum	Grade Six Planner	Term 4 *I Have A Great Idea, What Next?* Some iPod use as incidental to children's needs.
iPod Evaluation		CSPS Survey Monkey Attitude to School

VELS Outcomes

Internal data from Corio South indicates that improvements have been made in the targeted areas of reading, writing, speaking and listening. Corio South's report reveals some interesting data.

Reading

> *Our initial aim was to improve our Reading against VELS at or above the expected level from 38 % to 50% at or above. In March at the beginning of the research, 36% of Year 6 students (19 excluding ESL) were at the expected standard. Recent On Demand September testing of 17 students (one absent and one transfer) shows an increase of 42% of the children at or above Level 4. During this semester 46% of the remaining students are*

receiving Even Start – National Tuition Program one of a range of strategies to assist students who are not making satisfactory progress in literacy and numeracy. However, the big question, 'Is this enhanced learning due to the introduction of the iPod Touch or the normal teaching process?' My classroom observations would suggest that the iPod Touch kept the children focused on their work tasks without distractions or disturbances.

Writing

Our Writing target was to lift teacher assessment of Grade Six students against VELS Writing at or above the expected level from 42% to 55% . At the beginning of semester one, 61% of the students, excluding ESL students, were well below their expected entry level for grade six. By October, before final testing, only 17% of the children were well below the standard. A group of reluctant writers were targeted to have their work published on the iPod Touch and on our Grade Six Web page. This group accounted for 50% of the class and are now within the Level 3.5 – 3.75 range.

Speaking and Listening

Our aim was to lift teacher assessment of Grade Six students against VELS Speaking and Listening from 48% to 65% at or above the expected level. All children except one accepted the challenge of running or assisting our whole school assemblies. The introduction of the iPod Touch to support our speaking and listening program, was well received by our students. Children gained more confidence with speaking in public and 93% of my students have made their first podcasts. Assessment records show that 61% of my class will be at or above the expected VELS level contrasting with their entry level into Grade Six at 33%. The Karen children with assistance have created several group podcasts… Although very quiet and shy, their English is improving.

Summary

At Corio South, the teachers reported that '…the iPod Touch could easily be embedded into classrooms, as it is a multifunctional tool that supports learning of VELS across all areas of the curriculum'. Their main investigation was to improve literacy outcomes in Reading, Writing and Speaking and Listening, and the students remained very keen and engaged whenever they worked with the iPod Touch.

They further reported that '…it also became evident that in an inquiry based environment, all areas of the curriculum could be enhanced'. Using the iPod Touch, they following the Kath Murdoch (2007) Integrated Inquiry Planning Model, with the children covering areas of Arts, Communication, Design, Creativity and Technology, Health and Physical Education, Humanities, ICT, Interpersonal Development, Mathematics, Personal Learning, Thinking Process and Science.

Although, the initial technical familiarisation of using and syncing the iPod Touch from a teacher perspective was time consuming, it is an affordable and portable option to assist student learning.

6.2 Courtney Gardens Primary School

Set within a population growth corridor, Courtney Gardens Primary School is a leading ICT school, having been involved in a range of innovative projects.

Teacher profile

Teacher 1 is a Multimedia Specialist at the school and works with small groups of students from all year levels to produce a school television broadcast that is shown to the whole school on a daily basis. He rates himself as 'confident' or 'expert' in most ICT applications and has developed increased capability with digital tools and mobile handheld technologies between the pre and post-project surveys. He is mostly self-taught and tends to use online tutorials and 'Help' functions to increase his skills. As a Multimedia specialist he regularly uses digital video, photography and animation software with groups of students and has introduced podcasts to students as a means to develop content for the iPod Touch.

Teacher 2 is the ICT Specialist at the school who goes into different classes with a class set of laptops to teach ICT skills. He is a confident user of most common ICT applications and his skills are mostly self-taught or developed through in-school professional learning and online tutorials. He mainly uses word processing and presentation software with the students along with Internet research and digital learning objects. Spreadsheets, digital animation and digital thinking tools are occasionally incorporated into his classes and he has introduced multimedia, blogs, podcasts and mobile handheld technologies.

Achievements

Courtenay Gardens viewed the iPod Touch project as a way of providing their students with the latest learning technologies to help improve learning. They were keen to see if handheld devices (like the iPod Touch) could improve student outcomes in a school-wide focus on writing, particularly in non-fiction writing.

Ten teachers from various grade levels volunteered to try out the devices in their classrooms. The plan was to roster the iPod Touch devices throughout the ten classrooms to see how different teachers would use the devices in innovative ways to assist the delivery of instruction in their regular lessons.

Several technological and logistical issues, however, had to be resolved before any trials could be commenced. Since the Department has very strict guidelines with regard to using its network securely, the very nature of connecting the iPod Touch devices to the school's network created a security breach on which the IT Technician was not willing to compromise. With the possibility of the school's secure networks being compromised by any solutions outside EduPass, the project at Courtney Gardens reached a stalemate for quite some months, while the teachers waited keenly for a solution from DEECD. By the end of the project, their iPod Touch devices had still not been connected to the network, although a suitable patch is now apparent. Thus, the teachers had to develop other creative ways to use the iPods other than on the Internet.

The results of the ePotential survey in Term 1 of 2008 indicated that 92% of staff at Courtney Gardens had never used a handheld device and only two teachers had ever used a handheld device in their classroom, so the project team decided to start by teaching themselves and the ten staff involved (and later the students) the basics of how the iPod Touch works. Once the basics were understood, the search commenced for innovative ways to use the iPods creatively in the classroom.

It was at this point that there appeared to be little collegial support amongst the group of ten teachers and a lack of project leadership from the two teachers involved, the Multimedia and ICT specialists. It appears that as a direct consequence of no 'direct' involvement by classroom teachers in the project, the specialist teachers were baffled as to how to integrate the iPod Touch into their specialist lessons.

Teacher 1 made podcasts of program segments of the regular television broadcasts produced daily by small groups of students. The podcasts are on the school website as a resource for other schools. The teachers, however, did not make any connections between what they were doing with podcasts and the use of the iPod Touch, rather waiting for a workaround solution from the DEECD on connectivity. The security issue that presented itself with students being able to have open access to any content whatsoever drove decision-making about possibilities in the classroom.

Mid way through the project, it was suggested by the teachers that they pass the project on to another school. In an attempt to salvage the project, they were engaged in a conversation by the researchers about what they were currently doing with podcasts and a new focus was determined.

With a fresh approach, they uploaded to the iPod Touch their current podcasts on Spelling Rules, Indonesian language snapshots and student made movies. These were used for media literacy activities by the ICT teacher as students learned to review other students' work and evaluate film and video content. The students learned to evaluate characters, settings and camera angles, concepts that were easily transferable to their own creations. A range of Mathematical operations were also developed as Maths Minutes podcasts in Term 4.

Student feedback was that the iPod Touch was something that 'every grade can use' and 100% of those interviewed indicated that they preferred watching podcasts and movies on the iPod Touch as opposed to a laptop or computer. They also indicated that they would use it for writing drafts, researching on the Internet, critiquing their own work or performance and for Maths multiplication tables.

The following outcomes were achieved in two terms using the iPod Touches in the course of the specialist Multimedia program and the laptop program which encompassed all students.

Table: Courtney Gardens Achievements with iPod Touch

Audience	Activity	Outcomes
Staff	Students gained initial familiarity with iPod Touch for learning	Awareness raised about iPod Touch and potential for use in the classroom
Year 6 students	Student developed instructional podcast about how to use the iPod Touch as part of the Morning Show	Students and teachers can download the podcast and learn how to use the iPod Touch
Year 3 students	Used the iPod Touches to critique movies via an on-line survey using Survey Monkey.	A thirty minute podcast created and posted on school website detailing their observations.
Prep and Year 6 students	Year 6 students read books, published the videos and uploaded them onto the iPod Touch for Preps.	Prep students (below benchmark for reading) use the iPod Touch to improve reading skills.
Student Welfare Officer	At risk students able to engage with iPod Touch as tool for learning	iPod Touch used with 'at risk' students to help calm and re-focus them
Multimedia students	The multimedia program used the iPod Touch as countdown timers and calculators	Useful for numeracy development
Health and PE	Teachers have used the devices to assist them with workouts by watching exercise podcasts	Used as an adjunct in exercise programs
Multimedia students	Multimedia students have posted several podcasts on the school website for other schools to use such as	Resources for other schools: - Maths games podcasts - sample student movies - teacher resources for a writing program.

Photos: Students developing podcasts in the Multimedia Studio and giving feedback on the iPod Touch

Summary

Courtenay Gardens Primary has had a technology-rich learning environment for many years with SmartBoards in every year level, a high computer to student ratio, a mobile laptop program, a multimedia program and a regularly scheduled computer specialist program. The iPod Touch was incorporated into the school-wide focus of providing the best opportunities for students to prepare them for the challenges they face in the 21st century.

Portable learning devices like the iPod Touch certainly appear to meet an unfulfilled niche in schools. Despite the difficulties with accessing the network, Courtney Gardens Primary School staff indicated that '…the iPod Touch is simple to use, relatively durable and has the ability to access the Internet anytime and anywhere [which] certainly gives them a high potential for widespread use in our school'.

They also indicated that it would be of great use as an assessment device for all teachers, as it would enable teachers to assess immediately in the classroom and to instantaneously upload the data to a central assessment database.

> *The iPod Touch also introduces a 'coolness' factor, which makes them excellent learning tools for a wide variety of students with individualised learning needs. Students of this era are very web-savvy and these devices have the ability to create a portable learning environment for anywhere, anytime learning.*

6.3 Epsom Primary School

A small primary school within the greater Bendigo area, Epsom Primary School is surrounded by rural views. Two people at the school are involved in the project, the Principal and the ICT Teacher.

Teacher profile

Teacher 1 is a Teacher/Librarian and ICT specialist has contact with all students in the school. She is a very 'confident' or 'expert' user of ICT and applications, with her skills being mainly self-taught or gained through the use of online tutorials or mailing lists to expert groups of problem solvers. She coordinates the Bendigo Education Apple Users Team (BEAUT) (http://www.beaut.org.au/index.html) and regularly contributes to their blog and podcasts. Internet, digital photography, podcasts and handheld devices are regularly used with the students, but she has extended the range of applications to include regular use of word processing, multimedia production, digital learning objects, digital animations, and plans to introduce digital thinking tools, blogs and wikis.

Teacher 2 is the Principal of the school, teaching a Year 5/6 composite class. He is a very confident and 'expert' user of technologies who has developed expertise with mobile handheld technologies. His skills are mainly self-taught or developed through in-school professional learning activities and interaction with his peers. In the classroom he regularly uses word processing and presentation software, multimedia, Internet research, digital photography and digital learning objects. He has prepared instructional podcasts and now is a regular user of mobile handheld devices. He also plans to introduce blogs into his teaching.

Achievements

Having been involved in an iPod Nano project the previous year, Epsom was able to build on the knowledge and skills developed, and transfer them into the iPod Touch project. Epsom focused on the potential of the iPod Touch to enhance teaching and learning, and create change in teaching strategies or pedagogies. The teachers at Epsom used their previous background in mobile devices at the school to develop a range of curriculum activities for students across the year levels.

The Principal developed Maths podcasts on division for use in his Year 5/6 class. The Year 6 students used the podcasts on the iPod Touch along with classroom materials such as MAB blocks and worksheets to teach the mathematical operations to Year 5 students. The team work and peer coaching process was much enjoyed by the students. Most students said they preferred to learn this way and the teacher also described that their learning was more active and engaged. Students also used materials and number lines to develop understanding of multiplication and division of decimals (to two decimal places) and simple common fractions.

Photos: Students peer coaching in numeracy concepts with iPod Touch

The ICT specialist teacher/librarian has a sound grasp on the technical issues and is very much at the forefront of technical initiatives at the school. She displayed this in the innovative way technologies are embedded in her pedagogy.

Her Year 5 students developed eBooks for the Year 2s. They photographed big picture books and narrated the story to prepare an eBook that can be uploaded as a podcast to the iPod Touch. Year 2 students listen and follow the story, looking at the images and words.

Preparation for the zoo excursion meant that students researched endangered animals on the iPod Touch and produced podcasts of their research. Younger students were able to take the iPod Touch with them on the excursion.

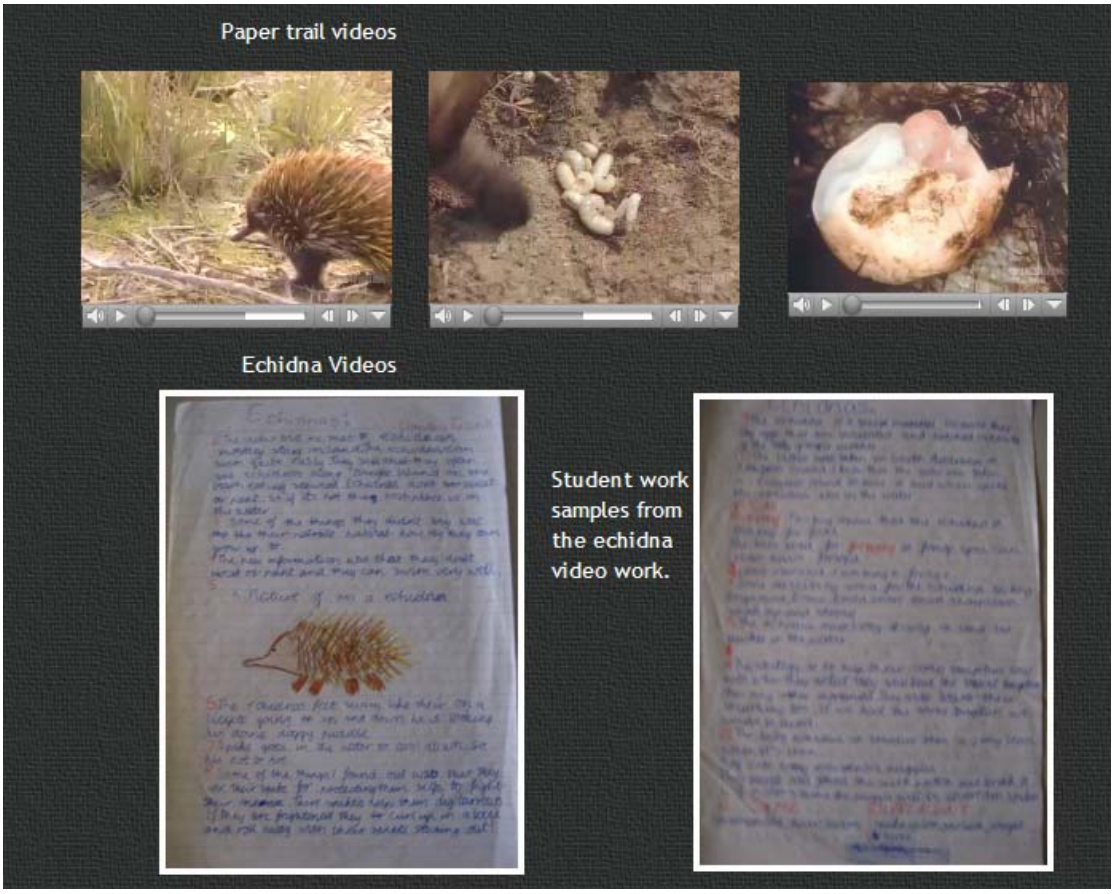
Other icons on the iPod Touch such as the Weather was used to download information which was graphed for comparison and interpretation. The Maps icon also gave access to a range of local and national maps which the students used in geographical, spatial and mathematical activities.

A range of other activities are planned including the use of free web applications for iPod Touches and downloads from TeacherTube and YouTube, which was done at home by the teacher to develop further stimulating activities.

The students used Etch a Sketch Web app to write on the screen and practice letter formation and words they are bringing to fluency. A shake of the iPod Touch and it was ready to write on again. Engagement was very high for this activity that enables English Level 1 students to learn to form letters correctly and to use a range of writing implements.

Students explored the relationship between the purpose and audience of texts and their structures and features, such as the features of visual texts, sound effects, characterisation and camera angles used in film. Movie clips, Echidna and Paper Trail from Australian Screen have been used by the students as viewing activities. After watching the paper chase the students used The Learning Federation digital object, ‘Lights Camera Action’ to become the film director with knowledge of filming techniques such as shot angles, sound and perspective.

Image: Paper Trail video prompting student writing



Students used Google Maps and Google Earth on the iPod Touch for Geography to develop the ability to identify and collect evidence from primary and secondary sources and ICT based resources. They then recorded, represented and interpreted data in different types of maps, graphs, tables, sketches, diagrams and photographs.

In the Geospatial skills dimension, students interpreted maps of different kinds and at different scales, including street directories, atlas maps, ordnance survey maps and topographic maps. Students identified and collected information from maps, plans, photographs, satellite images, statistical data, and ICT resources; and recorded and represented data in different types of maps, graphs, tables, sketches, diagrams and photographs.

Googledocs was used to collect the students' reflections on the use of the iPod Touch. Initially students used their notebooks and wrote down comments, however, this was seen as a cumbersome method and the use of Googledocs enabled collaboration and quick collation of results on one page. De Bono's Hats was used as a framework for the collection of the students' reflections which can be seen in Appendix D Uses of the iPod Touch.

Web apps that have become student favourites include:

- Wurdle
- Comic Touch

- Etcha Sketch
- Writing Pad.

The following outcomes were achieved using the iPod Touch as an integrated ICT tool.

Table: Epsom Achievements with iPod Touch

Focus	Activity	Outcomes
Civics and Citizenship Finding information	Researching, learning to frame investigations, reflect on findings and report conclusions on recycling, and the Olympics	Students developed podcasts. Information text was explored and the iPod Touch used for research. Note taking skills were developed through the use of scaffolding in shared writing http://web.me.com/jenashby/Uses/Information_text.html
Civics and Citizenship - Researching	Preparation for the zoo excursion - research endangered animals	Students produced podcasts on endangered animals for younger students to upload to the iPod Touch and take with them on the zoo excursion
Literacy - Writing	Initial modelling, gathering and recording of facts. Modelling of text structure for an information text.	Students developed a webpage about an endangered animal. http://web.me.com/jenashby/Uses/Information_text.html
VELS - Mathematics - Level 4	Teacher produced podcast on long division	Students peer tutored (Year 6 and Year 5) Maths concepts using iPod Touch podcast and MAB blocks http://web.me.com/jenashby/Uses/Information_text.html
VELS - Mathematics - Level 4	Multiplication and Division activities	Students use materials and number lines to develop understanding of multiplication and division of decimals (to two decimal places) and simple common fractions.
Geography	Weather icon - Students work with samples of temperature graphs with data collected	Students graphed information for comparison and interpretation.
Geography	Maps icon	Students used local and national maps in geographical, spatial and mathematical activities
VELS English Level 1	Etch a sketch Web app. Form letters correctly and use a range of writing implements.	Student write and practice letter formation and words they are bringing to fluency.
VELS - English Level 4 - Developing visual literacy Reading	Students view movie clips, 'Echidna' and 'Paper Trail' and use digital learning object 'Lights Camera Action'	Students learn about relationship between the purpose and audience of texts and their structures and features, features of visual texts; and sound effects, characterisation and camera angle used in film.
Geographical knowledge and understanding	Using Google Maps and Google Earth: Identify and collect evidence from: - primary sources through fieldwork - secondary sources, including maps at a variety of scales,	Students record, represent and interpret data in different types of maps, graphs, tables, sketches, diagrams and photographs.

Focus	Activity	Outcomes
	photographs, satellite images, statistical data - ICT based resources	
Geospatial skills	Students read and interpret maps of different kinds and at different scales, including street directories, atlas maps, ordnance survey maps and topographic maps.	Students develop skills in gathering information first-hand from fieldwork studies. They make observations, take field measurements, conduct surveys and interviews, map and record phenomena.

Summary

The teachers involved have concluded from using the iPod Touch in the classroom that it can be used to enhance learning. They have, however, identified three conditions for the iPod Touch or any other ICT tool to be integrated in the classroom:

- teachers must know the capabilities of the tool and how to use the tool and be familiar with the software
- teachers need to have a mindset that drives them to want to use the tool and see it as a positive addition to their tools
- teachers need time to enable the above qualities to develop.

According to the teachers involved:

> *We have barely scratched the surface as new apps are being released daily. Communication skills could be used far greater and this attribute of the iPod Touch was under-utilised in this project. Also collaborative work via the communication possibilities has great potential for further work using the iPod Touch in the classroom.*

In terms of collegial support, the ICT specialist and the Principal were working closely together, learning from each other. The challenge in any school with new technologies is to disseminate expertise across the school by generating widespread interest in the use of emerging technologies.

> *The instant access can give you results straight away which doesn't take over the learning time. Just two taps and you are on the Internet. The process of logging on and opening applications on computers can be time consuming and make a simple short task into a 30 minute job. The iPod Touch gives you instant access and instant learning.*

7 RESEARCH FINDINGS

The introduction of the iPod Touch devices in to primary school classrooms has been received by students as exciting, motivating and, in their word, 'awesome'. From the teachers' perspective, it has required a significant amount of time, curriculum innovation and pedagogical change. It has further required a great deal of technical expertise to solve the connectivity issues.

For most of the teachers, there was leadership and collegial support for their efforts, however, the degree of innovation has required that the teachers extend their imagination, their creativity and their traditional pedagogies in the classroom to realise the full potential of the devices. Despite a significant degree of risk-taking by the teachers, many of them feel that they have just begun to see to possibilities of the iPod Touch for learning.

In the early phase of the project, the teachers invested time getting to know the devices. Some spent vast amounts of time building knowledge and developing expertise through online troubleshooting sites, while others networked amongst their cluster schools with ICT experts and IT technicians in a bid to discover workaround solutions to problematic issues.

What has become quite clear is that mobile devices like the iPod Touch have real learning value in teaching and learning contexts, and that it is the imagination of teachers to integrate such devices in innovative ways that is the most valuable resource. In each of the primary schools, the iPod Touch has been integrated into authentic classroom learning activities in meaningful ways.

Of particular note is the confidence and independence that most children displayed when using the devices for learning activities, regardless of year level and age. Students were observed peer coaching younger classes or developing iPod Touch activities for each other. Students who were non-English speaking were able to develop podcasts in their native language and communicate with others in their class when developing English. Similarly, Year 6 students developed an elaborate, professional podcast on how to use the iPod Touch for all students in their school, while Year 3 students were filmed giving sophisticated advice on the uses of mobile devices for learning. Students developed their own web pages and discussed their thoughts in blogs on the iPod Touch.

The VELS ICT dimensions suggest students use ICT for Creating, Communicating and for Visualising Learning. It was evident in classrooms that students were using the iPod Touch as one ICT tool for those purposes but also for research, identification, observation, description, analysis, explanation, synthesis and evaluation.

Some students were able to take the iPod Touch home to show parents their podcasts. Parents in one school were surveyed with an overwhelmingly positive response to the use of the iPod Touches in the classroom. See Parent Survey in Appendix D.

In general, the iPod Touch devices have been integrated in imaginative ways to suit the learning areas, topics and concepts being taught. The teachers concerned developed innovative ways to embed mobile learning in their classrooms. The devices have also had a viral effect on other teachers in the schools, with some other teachers becoming involved in using the devices with their classes. This project has made discoveries that are constructive and can be applied to other 1:1 initiatives.

7.1 Student Learning

A total of 62 students (47% female, 53% male) were surveyed to ascertain their skill levels, use and attitude towards ICT at home and at school. The Overall Student Survey Data can be viewed in Appendix B. A comparative analysis has also been done on students in two schools, Corio South and Epsom Primary Schools, using pre and post-survey data. The School Comparative Survey Data can be viewed at Appendix C.

The technology most regularly used at home by students was a desktop computer, with 43% using it on a daily basis, an increase of 8% in six months, and 53% using it at least weekly. Mobile phones, games consoles and digital cameras were also reported to be widely used. Other technologies were not used to the same extent.

Epsom PS students have better access to technology at home, with all students indicating that they access a computer at home, 47% of whom use a desktop computer daily and 21% at least weekly. In contrast, Corio South students indicate 40% use a desktop daily, 3% access one at least weekly and 13% have no access. The pattern is similar for the other types of technology surveyed such as laptops, mobile phones, games consoles, etc.

In March 2008, Internet research for school assignments was the most widely reported use of technology at home, whereas six months later, it has been superseded, with more that a third of students using Instant Messaging daily or weekly, sending or receiving email and using blogs and chat. Internet research at home has dropped off significantly, perhaps due to the high level of access in the classroom. In March, 70% reported they had not accessed blogs and chat from home, whereas after the project, almost a third access them from home.

Epsom students use the Internet more for email with only 5% saying they never use or receive email at home, as against Corio South's 33%. Epsom students also make wider use of instant messaging and podcasts at home whilst Corio South students use the Internet for research, blogging and downloading music and video. This reflects their growing interest in their own blogs and web pages which formed part of their homework activities, and supports the claim from Corio South that the new mobile technologies had provided a stimulus for students who had never done homework to now complete it on a regular basis through their blogs.

At school the most widely used technology was the desktop computer with all students reporting access to them at some time. Other popular technologies used at school were interactive whiteboards and digital cameras. Laptops were used to a lesser extent, however some students reported accessing them at school. For learning at school, the most prevalent activity was sending or receiving emails, with 90% of students using email at least weekly (55% daily and 35% weekly). Almost half of the students used instant messaging and 40% downloaded music and videos.

Corio South students used technologies at school more than those at Epsom for email, researching and blogs whilst the Epsom students used instant messaging, music downloads and podcasts more regularly.

Most students claimed confidence in the use of the technologies surveyed, with their highest levels of confidence in using the Internet for research (88% confident users as opposed to 73% in the pre-survey) and email (78% up from 69%). Confidence in word processing and multimedia

production (69%) has increased slightly, however, the greatest increases were in confidence with the computer, the iPod Touch and the Nintendo Wii, where almost 80% of students indicated they were expert or confident users. The lowest levels of confidence were in spreadsheets, podcasting and digital music and video production.

Students at both schools generally rate themselves as being expert or confident in using most computer applications with both schools claiming similar levels of expertise. Differences in levels of confidence are aligned with those used at the respective schools. For example, Corio South students show higher skills in using the Wii console, which is used regularly in their classrooms and Epsom students are more confident in making podcasts, which they do more regularly.

Student attitudes to the use of technology were very positive with 87% indicating that they often use technology at school and that technology makes learning fun. Sixty three percent indicated they learn better with technology. Over 60% indicated they use technology at home and that they are better than their parents with technology. The majority of students have great respect for their teachers' use of technology, with only 13% indicating that they are better than their teachers, whom they see as their main source of their learning in the technology area (90%). They see self instruction and help from their peers, siblings and parents as other sources of their skill and knowledge in the use of technology.

Both schools report a high level of technology use in their classrooms: 95% at Epsom and 87% at Corio South say they use it often in their classrooms. Epsom students use technology more regularly at home with 100% saying they use it regularly, whilst only 60% of Corio South students use it regularly.

Sixty eight percent of the students surveyed indicated that they use the iPod Touch weekly, which is testament to their popularity, with only 8 devices in each class. Both schools reported using the iPod Touch regularly with 53% of Corio South students and 89% of Epsom students saying they used it at least weekly. A small number (4%) of Corio South students recorded they had not used the iPod Touch.

In terms of ease of use, the students generally found the iPod Touch easy to use, with over 75% finding Web apps easy to use, and two-thirds finding it very easy or easy to surf the Internet, view podcasts and use the keyboard. In general, students at both schools found it easy to use the iPod Touch for surfing the Internet, viewing podcasts and using applications. Fifty eight percent of Epsom students said it was hard to use at first, but with experience it became easier. Corio South students found it very easy to use for Internet surfing (45%) and using applications (50%). Some students found the keyboard difficult to use, but this was a small proportion of those surveyed (18% of Corio South and 6% of Epsom students).

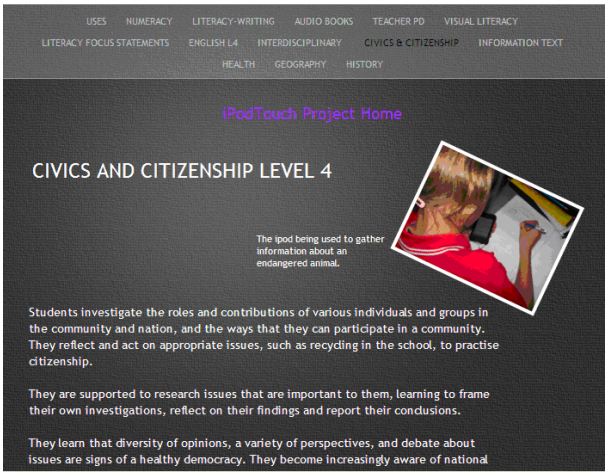
In terms of technology assisting their learning, 100% indicated that computers have helped their learning, followed by the iPod Touch (96%), interactive whiteboard and laptop computers (73%) and Nintendo Wii (66%). They rated desktop computers the highest with 89% of Corio South and 63% of Epsom students saying they helped them a lot. Corio South students also rated interactive whiteboards (64%), the iPod Touch (57%) and Wii console (36%) as helping them a lot. Epsom students found laptops (58%) and iPod Touch (32%) helped their learning a lot. In contrast to Corio South, Epsom students did not rate the contributions of interactive whiteboards (11%) and Wii consoles (11%) as highly. Corio South students did not consider the

contribution of laptops as important as the Epsom students (29% vs. 58%). The differences can be largely put down to different levels of exposure to these technologies in the different schools.

Interview and in-school survey data clearly suggests that there is evidence of critical evaluation of the devices for learning by the students. When asked about the potential of the devices for use by other students and schools, the feedback was remarkably similar across the schools. Having become accustomed to the size, portability and functionality of the iPod Touches, students generally indicated a preference for the iPod Touch for more 'personal' tasks such as email and viewing podcasts, but preferred the computer for tasks where you needed to use more fingers, such as writing. They did suggest that this was because the iPod Touch only has a small note-taking application, and it was a clear recommendation that if the iPod Touch had word processing and spreadsheet functions, then that would suffice as a key device for primary students.

For some students one finger typing was slow and the general recommendation was that a stylus or pen would be an improvement. They commented favourably on the portability of the devices and the fact that 'you can carry them around in your pocket', and they enjoyed the visual nature of the functionality, the fact that 'you can look and learn'.

Image: Civics and Citizenship student blog



Students at Years 5 and 6 were observed working in teams and pairs across a range of curriculum activities. Due to the minimal number of devices in each school, 8 per class, student-student mentoring was widespread. Students were observed working together, teaching each other concepts from podcasts on the iPod Touch while using tangible learning objects in the classroom such as blocks, worksheets, computers, Nintendo Wiis, data projectors, video editing suite, and other ICT devices. The limited number of devices promotes cooperative learning and has stimulated a change in teacher pedagogy.

Students in one school were asked to rate a range of free Web apps for the iPod Touch, write a persuasive essay on why they should be included on the iPod Touch and describe how they might be used for learning. In the life of the project, the launch of the iPhone has prompted a huge array of Web apps to be developed, a significant number for educational purposes, and it is these applications that have opened up the use of the iPod Touch as a tool for learning, particularly for ESL, students 'at risk' and those with difficult behaviour or learning disabilities.

As described in the Case Studies, students have taken to the Web apps with enthusiasm. They like the mobile learning concept and will do anything to participate in the activities, even doing homework and writing for the first time, when other strategies have not worked for them.

ESL new arrival students, who have no English language skills, were asked to develop a podcast about the basic hygiene of hand washing. The podcast was developed in their Karen language and they added English sub-titles as an English literacy activity. They took quickly to the new technologies and produced quality podcasts, mentored by other students in the class. The podcasts are to be made available for students to take home for parents and community members.

In a couple of the schools, students were able to take the devices home to show their parents and families examples of their work. One school indicated that parents were accustomed to technologies coming home with students, and that the students were able to show their parents current approaches to Maths problems and digital books for literacy development. Essentially the school uses the devices to help educate parents about contemporary schooling. Refugee parent-teacher interview sessions were conducted with the student as facilitator, using the iPod Touch to demonstrate their learning to their parents.

All of the teachers involved in the project have indicated that learning with the iPod Touch is beneficial as it increases student motivation and encourages collaborative work. It supports ICT skill development and interpersonal learning through engaging and persuasive discussions amongst the students.

> *As a result of this engagement with purposeful learning, student self esteem has increased. From using iPod Touch and the Nintendo Wii, Corio South Primary School students have improved their memory, they think logically, use problem solving strategies, have acquired mathematical skills, become more resilient with learning challenges. Each student has developed skills and strategies that promote learning, and have developed a positive attitude to learning within and beyond the classroom.*

Our findings are that mobile devices, like the iPod Touch, have a positive impact on student learning to the extent that they support personalised learning. Students have appeared to relish the independence and autonomy provided by the mobile device. Further student responses can be viewed in Appendices E and G.

With increased autonomy in primary schools as 1:1 wireless initiatives become more popular, there are issues to be addressed such as safe and appropriate use, critical thinking and the evaluation of content. Mobile devices offer schools the opportunity to teach young students digital and media literacies and protective behaviours, as has been the case in this project.

Student comments on using the iPod Touch:

> *You get to take it everywhere you go; it loads anywhere, does anything you want and it's like your imagination in your pocket.*
>
> *If you don't get it, they (iPod Touches) help you learn it again.*
>
> *Kids sometimes don't want to learn, but when they have technology, they get active in it…have fun and learn.It (iPod Touch) tells you how to do it in video…it goes through the process. Then you learn to do it in your head.*
>
> *It's easy to use – you just click something and then you have it.*

7.2 Pedagogy

In the initial phase of the implementation, teachers tended to deliver traditional lessons where the iPod Touch was shared amongst students as they learned about the functionality. As teacher confidence with the device developed, the devices were integrated into classroom activities as one of a repertoire of ICT devices that students could use in the development and presentation of their work.

Initially, the teachers developed podcasts for their students to use, such as Maths concepts, literacy activities, eBooks and zoo excursion research. As teachers gained confidence and interacted with students about the possible uses of the devices, their imagination lead them to integrate the devices in more effective ways and to change their pedagogy, based on their experience.

One school found it difficult to creatively use them in the classroom to enhance learning, as time was needed to create effective learning resources and to search to see what others were doing. They felt that their networks were insufficient and they needed access to a larger network of teachers to share ideas. This issue was resolved in the other schools through close collaborative teaching teams. This highlights the need for the promotion of teacher professional networks that share innovative practices.

The pedagogy behind cooperative learning and teamwork could also be shared through professional networks. One school staff member commented:

> *Since we only had eight iPods we had to use them in small groups. Teachers were able to manage this although it would have been better if we had a whole class set.*

A greater degree of collaboration across the schools over a longer period of time would have enabled the transfer of teacher practice across schools.

Another school was able to move from a teacher-centred to a student-centred model of learning. One teacher commented:

> *Teachers need to be more trusting of students and to release some control over content and delivery of curriculum.Classrooms need to be flexible in the organisation of learning spaces and utilisation of ICT. The use of student choice in learning is greater and develops independent learners.*

Examples of this change occurred when students were able to use the iPods for further investigations, and were more likely to, because of the speed of access to the Internet. Peer coaching, through the use of instructional video, enabled the students to become teachers and control the learning.

Most of the teachers were integrating the mobile devices with other ICT technologies such as desktop computers and laptops, Nintendo Wiis, digital cameras, podcasting software, video editing suites, etc. The mobile devices became one of a range of tools that the teachers employ to motivate and stimulate student learning.

Curriculum activities were well planned and thoughtfully executed, with the technologies in mind. The activities observed were generally open-ended, student centred activities that required more independence and personalisation for the learner. In conversation with the teachers, some commented that using the devices prompted them to re-think their practice, to find new ways of using the iPod Touches. At Epsom, one teacher described his approach to student mentoring where children learned to teach each other, utilising the visual, tactile nature of the iPod Touch which appeals to a wider range of learning styles.

I'm now thinking of different ways to make it easier to learn…engage the kids and understand what it's like for them.

At Corio, the teacher indicated that for an experienced teacher, the iPod Touch was and would be easy to integrate into both a traditional or inquiry learning environment.

It was good that the iPod Touch and Wii motivated the students to learn new technologies in a non-threatening approach. Many students at Corio South are reluctant to participate in class activities or take risks, so we integrated the iPod Touch into the curriculum as a tool before using it to enhance literacy outcomes. When the students took on their Independent Inquiry Task, the iPod was used extensively and without pressure.

Teacher comments on what they have learned:

…to challenge my teaching.

…to integrate across all areas.

…it keeps me fresh and motivated

…it gives me ideas about learning.

7.3 Curriculum

The Essential Question focuses on curriculum outcomes, particularly at Corio South *'…by improving student outcomes in literacy for students in the middle years of schooling'.*

We have used the iPod Touch to engage students in developing appropriate, authentic and purposeful literacy assessment procedures including ongoing opportunities for student reflection and self/peer assessment. We have identified students' home literacy practice, cultural and linguistic experiences and designed specific learning expectations of all of the essential learning strands using higher order thinking skills for building on and transferring prior knowledge and learning strategies.

In one school, access to the iPod Touch for both personal and interpersonal learning has widened its use across the two grades involved in the project.

An audit (class lessons and iPod content) across all areas of VELS demonstrated how powerful a tool it is. We have been able to use it across the curriculum.

A common Curriculum Plan with embedded iPod Touch activities can be viewed in Appendix I.

During investigations at Corio South, it also became evident that in an inquiry based environment, all areas of the curriculum could be enhanced. For one and a half terms the children worked with the iPod Touch for their two units of work, *How I Can Be The Best I Can Be* and *I Have A Great Idea, What Next?* Using the iPod Touch, following the Kath Murdoch Integrated Inquiry Planning Model, the children covered areas of Arts, Communication, Design, Creativity and Technology, Health and Physical Education, Humanities, ICT, Interpersonal Development, Mathematics, Personal Learning, Thinking Process and Science.

As the teacher commented:

> *The iPod Touch could easily be embedded into classrooms, as it is a multifunctional tool that supports learning of VELS across all areas of the curriculum. Our main investigation was to improve literacy outcomes in Reading, Writing and Speaking and Listening, but the students remained very keen and engaged whenever they worked with the iPod Touch.*

At Epsom, the iPod Touch was used across many curriculum areas such as Maths, English, Visual Literacy, Civics and Citizenship, Science, Personal Learning, Geography, Thinking processes and Interpersonal learning. As indicated by the teacher:

> *Students initiate further learning as a result of using the iPod Touch. This will be measured by the amount of further inquiry and suggestions of further activities by the students and recorded.*

It appeared to support an integrated curriculum approach when students, for example, researched minimum temperatures of capital cities using the Weather icon to calculate the mean, median and mode in statistics and produced line graphs, thereby working across various curriculum domains.

With the influx of Web apps, Movies, Photos, iTunes and Safari as a browser, teachers indicated that their students were equipped with almost everything a student needs to meet the demands of their curriculum. The iPod Touch supported the processes of physical, personal and social development and growth, traditional discipline-based learning and interdisciplinary learning.

As a tool to assist the thinking curriculum, the iPod Touch can be made freely available to students to use formally or informally to assist their learning. In the project, using the iPod Touch, students accessed information and learning in all domains whether directed by their teacher or following their personal needs. The iPod Touch become the fuel for further learning by students.

In terms of assessment, teachers have been able to assess the process of engaging with and using the device as well as the products developed by students. Students began by recording their thinking and iPod experiences in personal journals. Some teachers used digital portfolios for compiling student work, while others developed web pages, class blogs and personal student blogs.

7.4 The iPod Touch Device

In terms of the functionality of the iPod Touch for curriculum purposes, teachers and students were asked to consider what works and what doesn't. Most cited the video clarity as marvellous, as it has been used for activities such as media literacy, accessing quality video from the ABC and Australian Screen, research and data collection and for classroom topics such as paper recycling, endangered animals, healthy eating, fitness, literacy and numeracy.

Teachers commented that it was engaging for students, motivating and prompting a desire to learn, especially for reluctant learners or those with behavioural difficulties or ESL background. It was particularly useful for literacy and numeracy work and its potential increased significantly with the launch of the iPhone and the array of Web apps developed in recent months.

The Weather icon provides access to instant data for maths, the Calculator and Notes functions are used to convert and assemble data. The Maps icon has also been used in Geography and Maths. The schools generally downloaded free Web apps, but there are some educational Web apps they would like to have bought, so the recommendation for projects of this type is that a contingency budget needs to be kept for the purchase of educational resources.

The device has much to offer but would also benefit from productivity tools and applications. The ability to create on the iPod Touch using Pages/Keynote, a camera and an audio/voice recorder would allow for more creative pedagogy. One drawback is the incompatibility between the iPod Touch and Flash, rendering digital learning objects from The Learning Federation unusable.

Student feedback was honest and authoritative. Generally, students love the device with its portability, clear, visual interface and immediacy of content delivered. They reported enjoying the responsive touch screen and the quality of the screen real estate and sound. They criticised the lack of camera and audio/voice recorder, which are present in the updated iPhone.

In terms of usability, most student feedback indicated that all grades could use it with ease and the majority preferred watching movies on the iPod as opposed to a computer. The keyboard posed some difficulties in the early stages, but after considerable use, students reported that it was not an issue.

When asked what they would change, suggestions included the addition of a headphone case and a range of programs for students to use such as word processing. Students generally indicated they would prefer to use a computer when you need to use all your fingers for writing, and suggested that the iPod Touch would benefit from a pen or stylus for typing. Students also indicated that they saw an essential difference between a device for group work and what they called 'private' work, such as email, where they preferred the iPod Touch.

7.5 Professional Learning

In any project, time for professional learning is the most important factor in the success of an initiative, but is often not planned or budgeted for. In this project a number of professional learning activity days were scheduled. The introductory day comprised project planning, Action Research discussions and initial training for the teachers on how to use the iPod Touch. A second day was conducted on using Kahootz Xpressions on the iPod Touch. Sessions were scheduled on the synchronous sharing of classroom practice using Elluminate *Live!*. Throughout the project, a blog was used for recording reflections, problems, solutions and celebrations. Resources were also uploaded to the blog to enhance the sharing of practice. Google Docs has been another mechanism where documents can be collaboratively developed by all teachers within the project.

The project website has blogs where teachers can: interact with each other to share what works and what doesn't; upload podcasts and uses of the devices in various curriculum activities; solutions to technical issues and so on. In the early stages of the project, the teachers obviously felt isolated and explored the devices on their own. As the project progressed, the teachers used the website more as they learned from each other and shared their experiences. One teacher

added samples of iPod Touch usage in Google Docs and encouraged the other teachers to add to the documents.

Teachers were asked to comment on the implications of the project in terms of productive use of time. Some teachers indicated that the iPod Touch was an intuitive device and so was not hard to learn to use. Others indicated that managing the device on a weekly basis for the class was initially nerve-wracking, but later became a routine task that required careful planning, especially with regard to battery charging required for classroom use. In terms of time commitment, there was a need to plan carefully for optimum classroom use, particularly for developing authentic learning tasks.

Required professional learning included knowledge and application of Apple programs and an ability to manage the devices in terms of syncing and charging. Updating them each week with new content or applications and converting files and formats were also issues raised by the teachers. What is essentially a personal or individual device is being used as a shared device by groups of students, and this has had both positive and negative responses from the teachers in terms of managing classroom activities.

> **Teacher comments on what they have learned:***I have been forced on a huge learning curve not only with a shift in teaching pedagogy but in learning about Dot.Mac accounts. Thinking how best to use the iPods within a variety of KLA's and allowing time for children to discover and explore within their own boundaries.*
>
> *It's easy for us because they fit within our normal routine and practice. Great for group sharing and independent work. Research and other functions make it a flexible tool for our inquiry classroom.*

Barriers to teacher engagement included the need to learn new technology and the ability to think creatively, the ability to develop authentic curriculum uses and to integrate the devices in meaningful ways. Questions were also raised about the number of technologies available in classrooms and the pressure this put on teachers to change their practice.

One of the barriers that teachers are still coming to grips with is the number of files created through converting projects for viewing on the iPod Touch, computers, webpage and blogs. The need to be acquainted with a whole range of applications and formats (eg iSquint, GIFfun etc) is time intensive. Most of the teachers indicated that learning new skills was enjoyable but time consuming.

Three essential professional learning needs, identified by one teacher,were:

- knowledge of the capabilities of the tool, how to use it and familiarity with the software.
- desire to use the tool and see it as a positive addition to their classroom
- time to enable skill and curriculum development.

Another teacher commented:

> T*eachers need to acquire knowledge of iPod Touch and its potential to be utilised across all areas of VELS with ongoing professional and technical support. Professional Development modules would need to be created and delivered. Professional learning communities need to be developed to implement pedagogical change.*

According to the teachers, professional learning required for such a project includes:

- iTunes – music, movies, podcasts, applications, store, downloading
- iPod Touch – syncing (manually, automatically), loading, unloading, arranging, charging, configuring Internet with EduPass
- various programs and applications to support iPod Touch content including GIFfun, Blogging, Keynote, Garageband, iMovie, iPhoto,Comic Life, iSquint
- iWeb – not necessary but useful
- learning ’08 iLife after becoming comfortable with ’06 iLife!
- converting, exporting, sharing files for web/iTouch Pod/computer.

Similarly, suggestions for school-wide professional learning for all staff including, ICT specialists, were as follows:

- school technicians’ training – especially configuring iPod Touch/mobile device
- classroom teacher professional learning on using computers as well as iPod Touch/mobile devices as tools for learning
- ideas and benchmarking across the VELS domains for use of iPod Touch/mobile devices
- capability with file conversion (iPod, web, computer etc.)

Generally the teachers acknowledged that they were able to embed the iPod Touch in their pedagogy with sufficient time to learn about the functionality and to creatively plan. They also indicated that the device caters for multiple intelligences and preferred learning styles, so embedding the iPod Touch in an Inquiry Learning Model would facilitate change to pedagogy.

7.6 Privacy and Ethical Use

The iPod Touch is essentially a personal or individual device and as such there have been issues that teachers have had to manage carefully in this project. Sharing the devices has compromised their ability to be synchronised with the correct content and has meant lost content in some cases. It has, however, provided an opportunity for teachers to educate students on the safe and appropriate use of mobile devices and the Internet in general.

Most of the schools have been concerned about the possibility that their systems may be compromised by using the AirPort express for wireless, while one school expressly refused to work outside EduPass security.

Concern was expressed in one school about the possibility of the devices being lost or misplaced when taken home, as student images are kept on them, rendering some students vulnerable in the community.

Student agreements on Acceptable Use were in operation in most schools, and the intellectual property issue with student created material, was raised in one school.

Copyright was a significant issue in terms of music and books. Considering that the iPod was originally designed for music content, such provision was breaching copyright in the school context. Instead, students created their own music in Garage Band and uploaded it on to the iPod Touch.

E-books also created copyright issues. Schools wanted to upload popular books, so one school experimented with taking photos of big books and having older students record the story for

younger students. As this breached copyright, students were then encouraged to develop their own illustrations when being read the story.

To overcome copyright in another school, students created books in Keynote that were then uploaded onto the iPod Touch. Web app Stanza allows viewing of free and purchased books, but as this is new, there has not been the time to fully investigate its capability.

Generally, in all schools, the iPod Touch prompted teachers to discuss issues of copyright and intellectual property with students, and they clearly saw this as beneficial and relevant to class work with web pages, blogs, instant messaging and email.

7.7 Technical Issues

Without exception, the biggest hurdle in all schools was the connectivity of the iPod Touch. Being able to easily connect to the Internet appeared to be a boon, but the method of connecting was problematic given the DEECD's security parameters for EduPaSS. Not being able to connect to the Internet was a minor issue in schools, two of whom found other activities of interest while awaiting workaround solutions. One school, however, felt its security would be entirely compromised, so chose not to use the devices until the DEECD provided a solution. This one issue brought the whole project to a halt and months down the track the teachers were counselled about the opportunities for using the iPod Touch without requiring the connectivity. Inability to connect to the Internet was seen as a major set back and by the close of the project, the devices were still not connected in one school.

> **Teacher comment**
>
> *Patience is virtue! Today with two heads together we have all iPods connected to edupass. The wine is still flowing, as it was a bit of a challenge.*

Time has been a major factor in the project. The technical issues required significant time, from the teachers and from technicians, and generally speaking, impacted on the implementation of the project. One school had a change in ICT support personnel at the commencement of the project with the result that it has took a term to establish the iPod Touches within the school and classroom. They indicated that using the iPod functions within the classroom and publishing the children's work on the iPod, should have been sufficient, without the worry of wireless access.

The synchronisation of the iPod Touches has been an issue in all schools, with issues such as lost content and lack of ability to synchronise on some of the devices cited. Use of personal mobile devices in a shared context also presents issues with synchronisation to the one computer. Minimal battery life for classroom use has prompted the teachers to develop novel ways to charge all the devices at once, such as the charging toolbox pictured below. The schools had to purchase an Apple Airport for wireless access and most cited the security issue when using an Airport outside the DEECD's EduPass Security. This security issue was resolved in the later stages of the project.

Image: Toolbox developed as a multi-iPod Touch charger

In terms of curriculum use, all schools indicated that the biggest disadvantage of the iPod Touch is that it does not read Flash files, so the digital learning objects from The Learning Federation cannot be accessed on the device. Many of the web sites schools had hoped to integrate into their planning were not suitable through the Safari browser on the iPod Touch. Many of the sites were reliant on Flash Plug Ins that were not supported by iPod Safari. Since a lot of educational digital content is developed in Flash, it is a major drawback with the device.

Trialling suitable blogs that were compatible with the iPods, able to be used through the school filters and suitable for their cohort, also took some time. The clarity of the audio was initially seen as an issue. Some schools discovered that the internal microphones on their school computers would not produce sufficient quality audio required for the iPod Touch.

Despite these issues, the teachers were aware that encountering problems and finding solutions was all part of the project research. In one case, the problem solving produced an unexpected outcome for the school.

> *We were aware of most of the problems that we had or would have. Most of the steps were not unfamiliar to us, and were easily solved when the experts were within the school. Having an IT/Music friend in another secondary school was also helpful, especially with improving the sound of our podcasts, hence the purchase of our podcast studio.*

8 SCHOOL DEVELOPED RESOURCES

Corio South Primary School Year 6 Webpage
http://web.mac.com/coriosps/Site/Welcome_.html

(password protected for privacy: user name - gradesix08 and password- wearegreat)

Courtney Gardens Primary School, Podcasts on Numeracy, How to use the iPod Touch and iPod Touch Project Reflections
http://www.cgps.vic.edu.au/our_podcasts.html
Epsom Primary School, iPod Touch Project
http://web.me.com/jenashby/iPodTouch_Project/iPodTouch_Project.html

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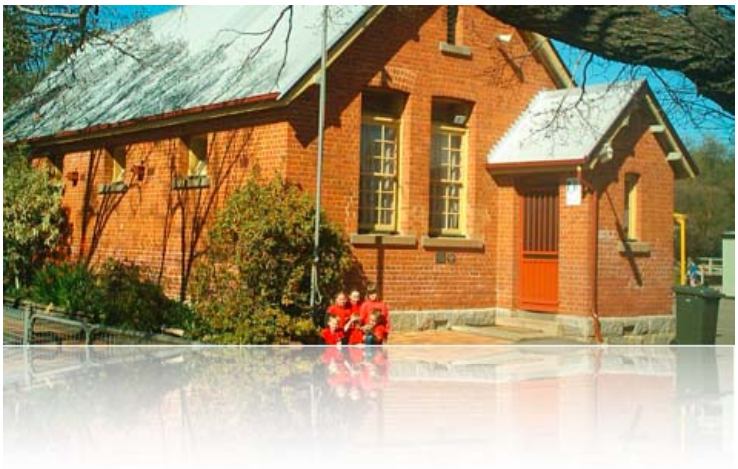
Appendix A: School Snapshots

Epsom Primary School



Howard St
Epsom,Vic 3551
http://www.epsomps.vic.edu.au
Epsom Primary School is on the outskirts of Bendigo in central Victoria, Australia and has 115 students with 5 grades. Bordering the school are empty paddocks with horses that give an atmosphere of a rural setting.

Epsom Primary has a solid foundation of providing a varied curriculum with an emphasis on the 'You Can Do It' philosophy for all children. Personal well being is at the forefront with a close family, caring relationship between staff and children.

After a long period of stable staffing our current principal Damien Jenkyn set the tone for a new generation of teachers to begin at Epsom four years ago when he became the principal and grade 5/6 teacher.

At Epsom Primary school the children and teachers are very well equipped with laptops and desktops in all the classrooms and a computer laboratory. The school has an ICT specialist who works along side teachers to enable the use of ICT in the classroom and in the laboratory. This has enabled us to venture into cutting edge technology use in the school where others may fear to tread.

Epsom Primary has utilised wireless Internet access and laptops since 2000 and is a leader in the use of new technologies. 2005 saw Epsom create an Australia wide project called the Loaded Faces project which supported an artist in residence program. In 2006 we produced our first podcasts to celebrate the Living History on our 125th anniversary and provided Intel training for all staff members. In 2007 we trialled the use of iPod Nanos and the Nike sensors, which supported our strong emphasis on children being fit and healthy. Also we introduced digital portfolios across all grade levels.

In 2008 we have introduced the use of Interactive Whiteboards in two classrooms and the grade 5/6 teacher Damien Jenkyn (Principal) along with Jenny Ashby (ICT specialist) are trialing the iPod Touch in the classroom as an action research project.

Corio South Primary School

Corio South Primary School is situated in the Geelong suburb of Corio. Geelong is located on Corio Bay, 75 kilometres south west of Melbourne and is a city of just under 200 000 people. Shell Oil Refinery and Ford Motor Car have industries in close proximity to our school.

Corio South Primary School is situated in a Low Socio Economic area with 65% of the population of families within the school being supported by the Educational Maintenance Allowance. Many Koori (Indigenous) children attend our school. Since 2007 many Karen (pronounced Ka-ren) family refugees from Thailand have become part of our school community. The Corio South/Norlane kindergarten is attached to the school. An effective 'out of school hours care' program and canteen operates at our school.

Corio South's current enrolment is 616. The school operates 28 classrooms, which are all straight grades. Staff plan together in teams, utilising shared expertise for program development and implementation. The school is committed to the provision of a comprehensive, inclusive curriculum. The school priorities over the past three years have included Technology, Literacy and Numeracy.

Corio South Primary School has a mission to Achieve Excellence and to be a '*…connected community working together to create a caring and safe environment in which learning is best facilitated and children are able to achieve to their true potential*'.

It is committed to achieving the mission by:

§ providing a comprehensive, inclusive and sequential curriculum
§ nurturing and celebrating individual differences
§ providing students with a solid foundation for future learning
§ enhancing the needs of all students through the provision of a safe and caring environment
§ promoting an open door policy that fosters positive relationships with parents and provides a progressive, friendly environment.

Courtenay Gardens Primary opened its doors in 1995 with Loretta Hamilton as its first and current principal. We have a diverse student population of approximately 780 with varying social and economic levels. Our school is located approximately 45 minutes south of Melbourne, in Cranbourne North.

Over the years, through the hard work of the leadership team, staff, School Council, parents, the community and most importantly our children, we have grown to become a centre of excellence and we constantly strive to be the BEST school in Victoria.

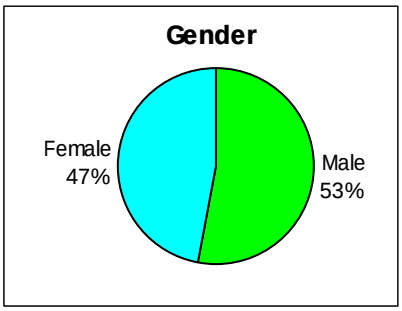
Recently, our school has been recognised by the 'Innovations and Next Practice Division' for our outstanding non-fiction writing program, as well as our award-winning Multimedia Program and Laptop Program. We are an Intel-trained school, as well as one of the original CeLL (Creating eLearning Leaders) schools across Victoria which provide on-going ICT training to other schools within our region.

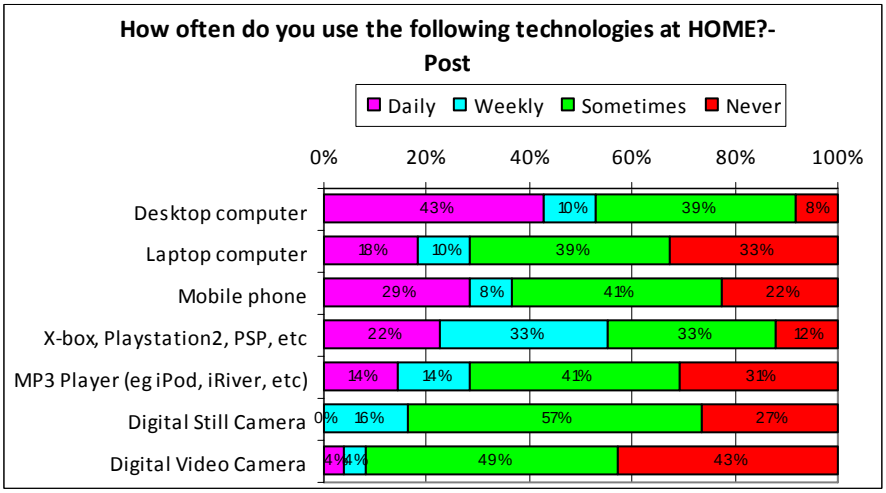
Courtenay Gardens is a leader in using technology to create an engaging, creative and supportive student learning environment. Our school has two state-of-the-art computer labs, a portable Laptop Program, SMART Boards and digital cameras for each grade level, as well as our very own Multimedia Studio from which students broadcast a live news program each morning.

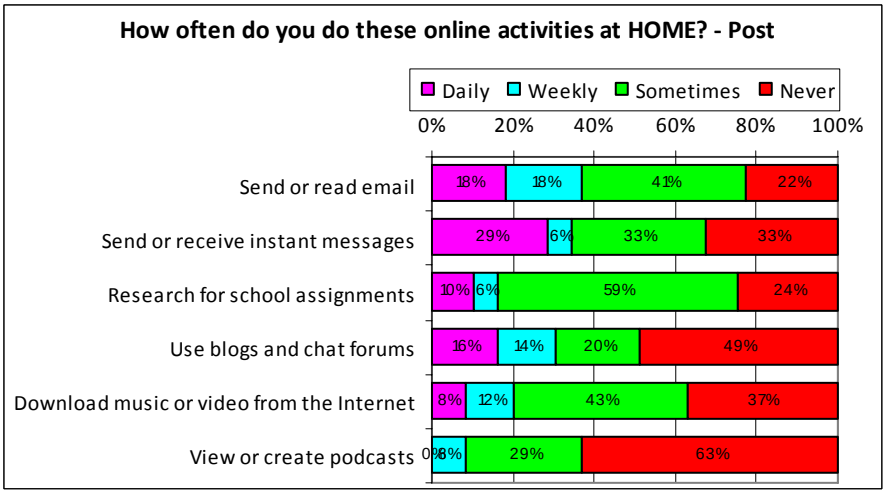
We also have specialist teachers in Library, Computers, Multimedia, Art, Music, Physical Education and L.O.T.E. (Indonesian) and an energetic staff that are committed to providing our students with the best possible learning opportunities.

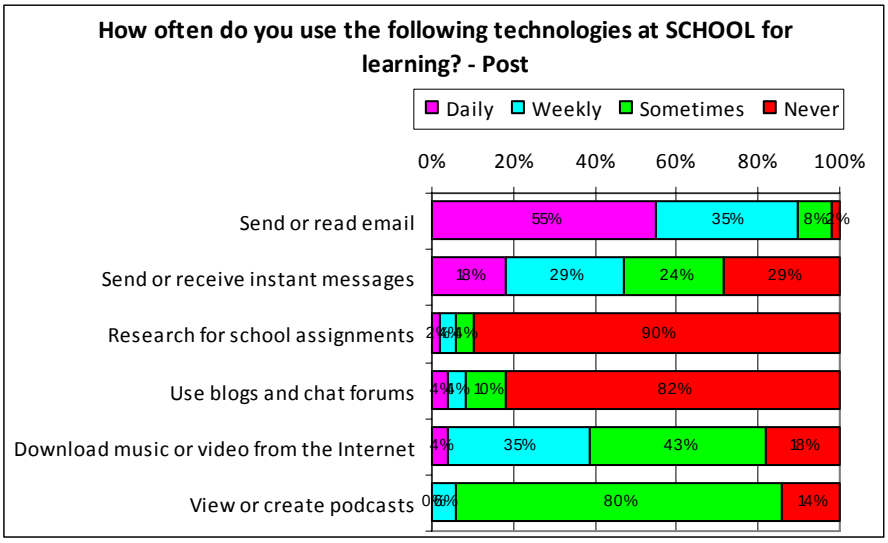
Appendix B: Student Survey Data

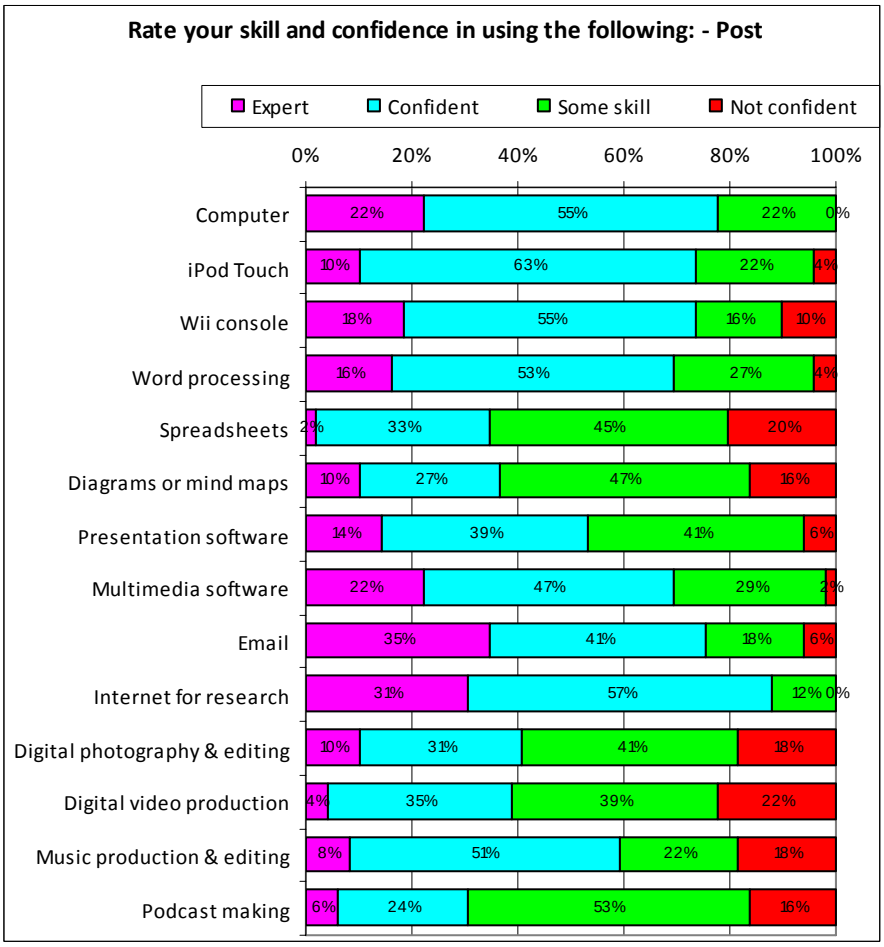
1. Overall Student Post Survey Data (Corio and Epsom)

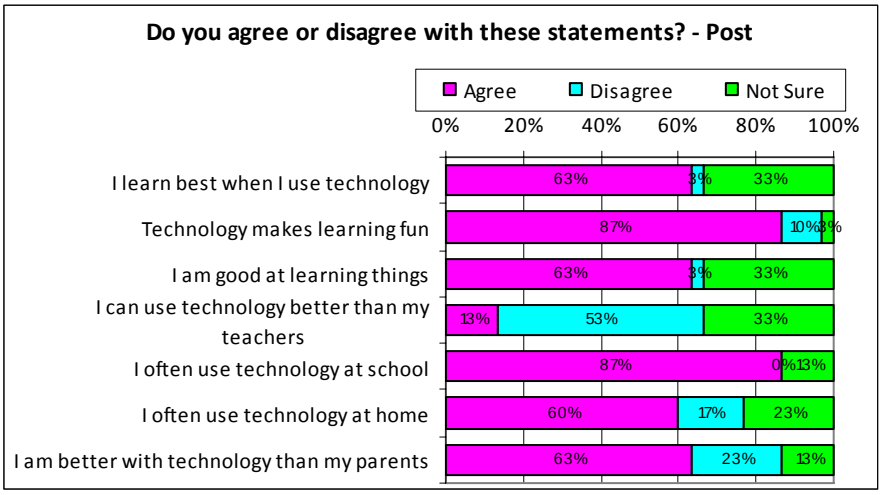


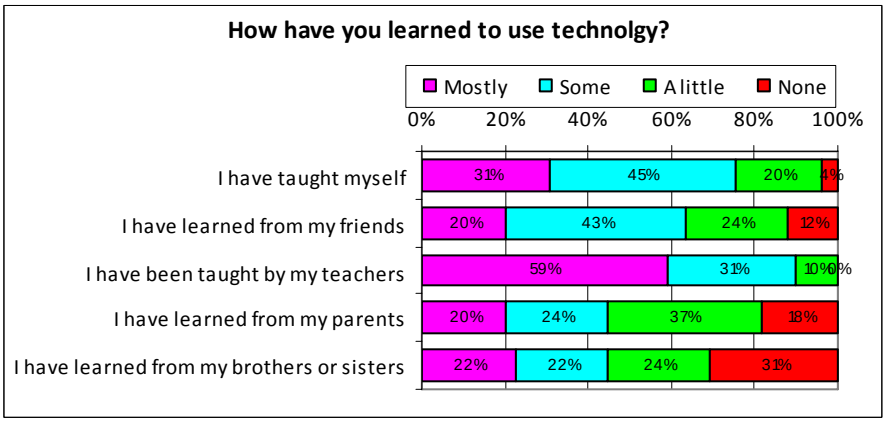


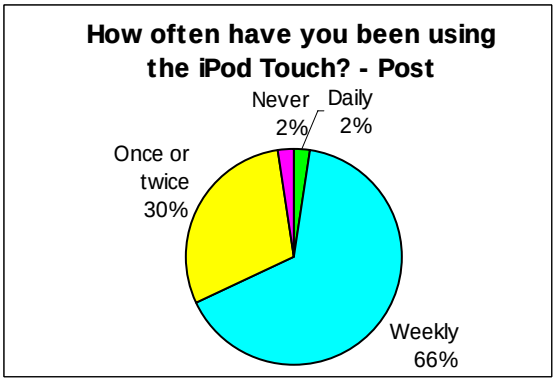


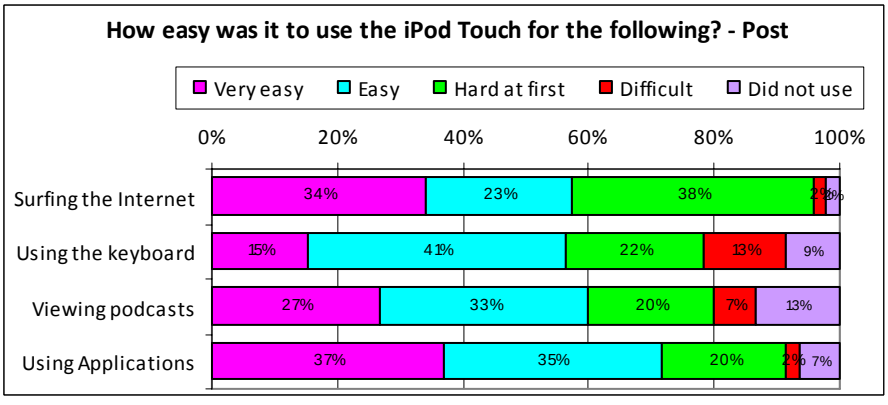

How often do you use the following technologies at SCHOOL for learning? - Post
Daily
Weekly
Sometimes
Never
0%
20%
40%
60%
80%
100%
Send or read email
55%
35%
8%
2%
Send or receive instant messages
18%
29%
24%
29%
Research for school assignments
2%
4%
4%
90%
Use blogs and chat forums
4%
4%
10%
82%
Download music or video from the Internet
4%
35%
43%
18%
View or create podcasts
0%
6%
80%
14%

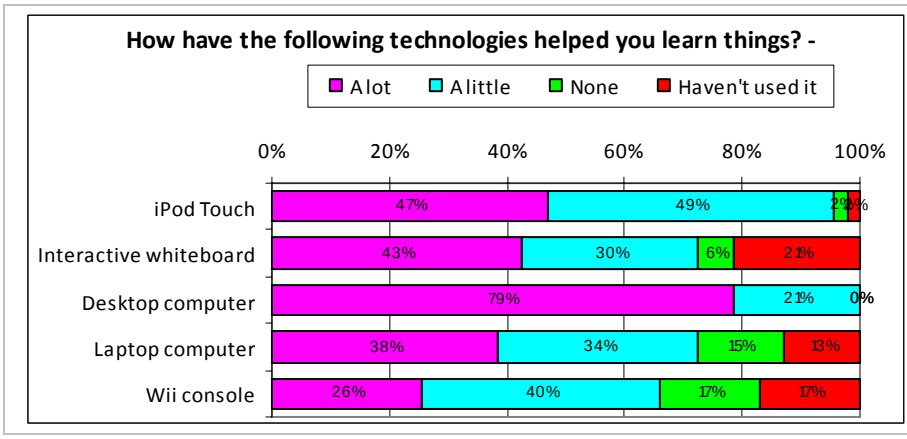

Rate your skill and confidence in using the following: - Post
Expert
Confident
Some skill
Not confident
0%
20%
40%
60%
80%
100%
Computer
22%
55%
22%
0%
iPod Touch
10%
63%
22%
4%
Wii console
18%
55%
16%
10%
Word processing
16%
53%
27%
4%
Spreadsheets
2%
33%
45%
20%
Diagrams or mind maps
10%
27%
47%
16%
Presentation software
14%
39%
41%
6%
Multimedia software
22%
47%
29%
2%
Email
35%
41%
18%
6%
Internet for research
31%
57%
12%
0%
Digital photography & editing
10%
31%
41%
18%
Digital video production
4%
35%
39%
22%
Music production & editing
8%
51%
22%
18%
Podcast making
6%
24%
53%
16%


Do you agree or disagree with these statements? - Post
Agree
Disagree
Not Sure
0%
20%
40%
60%
80%
100%
I learn best when I use technology
63%
3%
33%
Technology makes learning fun
87%
10%
3%
I am good at learning things
63%
3%
33%
I can use technology better than my teachers
13%
53%
33%
I often use technology at school
87%
0%
13%
I often use technology at home
60%
17%
23%
I am better with technology than my parents
63%
23%
13%


How have you learned to use technolgy?
Mostly
Some
A little
None
0%
20%
40%
60%
80%
100%
I have taught myself
31%
45%
20%
4%
I have learned from my friends
20%
43%
24%
12%
I have been taught by my teachers
59%
31%
10%
0%
I have learned from my parents
20%
24%
37%
18%
I have learned from my brothers or sisters
22%
22%
24%
31%

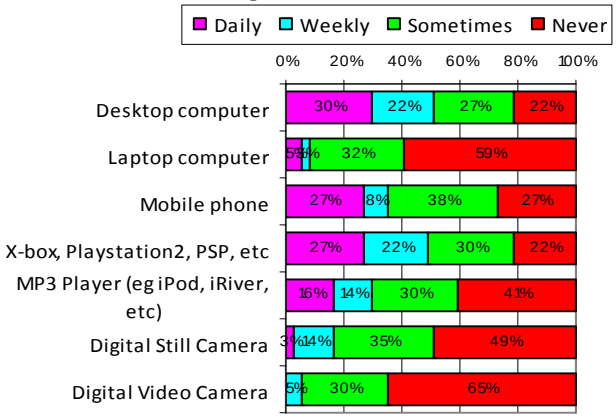
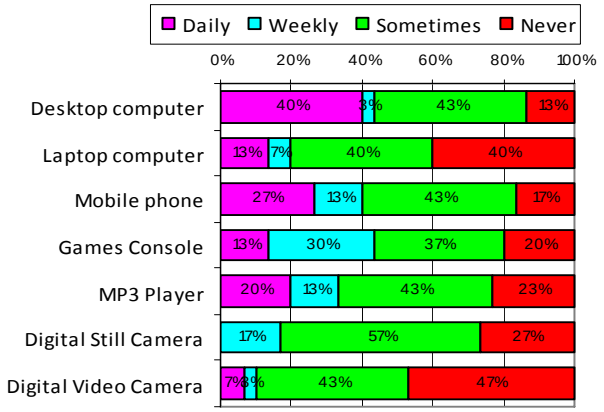
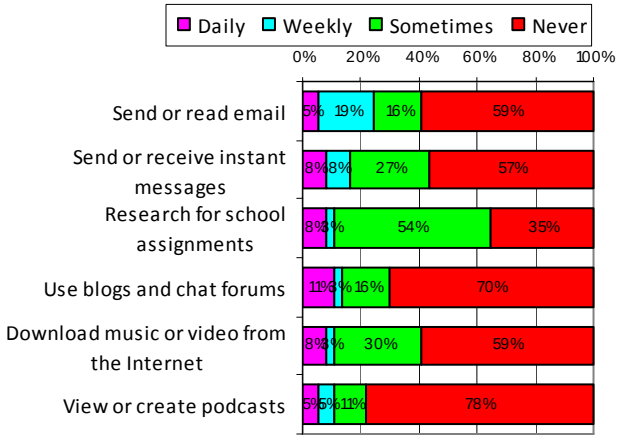
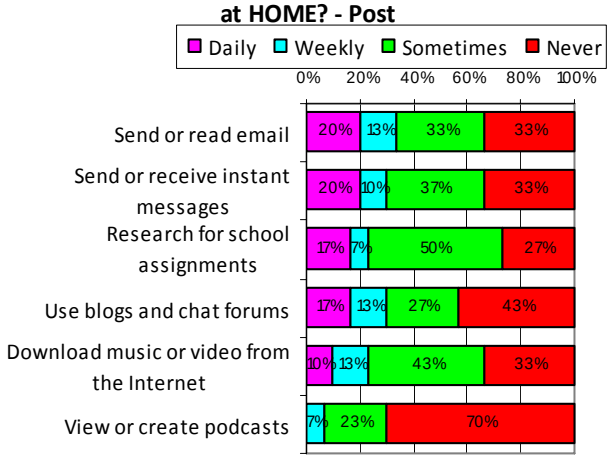

How often have you been using the iPod Touch? - Post
Never
2%
Daily
2%
Once or twice
30%
Weekly
66%


How easy was it to use the iPod Touch for the following? - Post
Very easy
Easy
Hard at first
Difficult
Did not use
0%
20%
40%
60%
80%
100%
Surfing the Internet
34%
23%
38%
2%
2%
Using the keyboard
15%
41%
22%
13%
9%
Viewing podcasts
27%
33%
20%
7%
13%
Using Applications
37%
35%
20%
2%
7%


How have the following technologies helped you learn things? -
A lot
A little
None
Haven't used it
0%
20%
40%
60%
80%
100%
iPod Touch
47%
49%
2%
2%
Interactive whiteboard
43%
30%
6%
21%
Desktop computer
79%
21%
0%
Laptop computer
38%
34%
15%
13%
Wii console
26%
40%
17%
17%

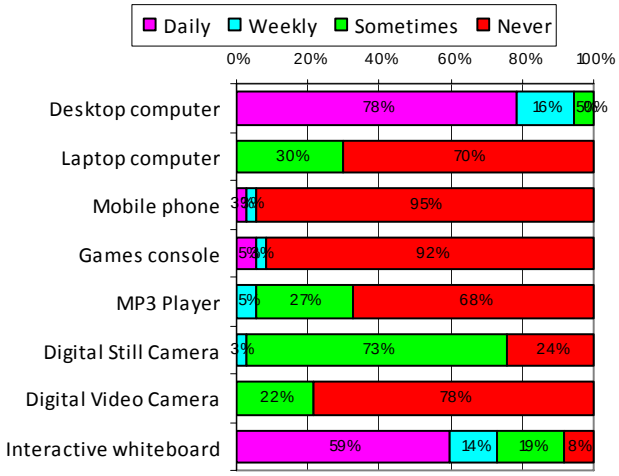
Appendix C: School Comparative Pre and Post Survey Data

Corio South Primary School Student Survey Comparison

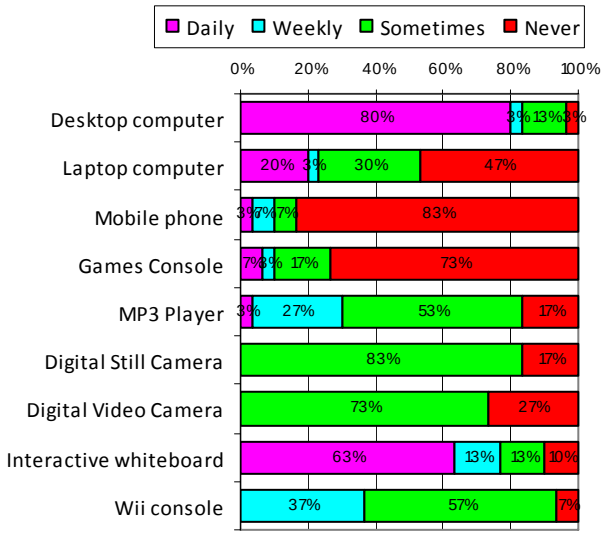
Pre Survey	Post Survey
How often do you use the following technologies at HOME? - Pre 	**How often do you use the following technologies at HOME? - Post** 
How often do you do these online activities at HOME? 	**How often do you do these online activities at HOME? - Post** 

Pre Survey	Post Survey

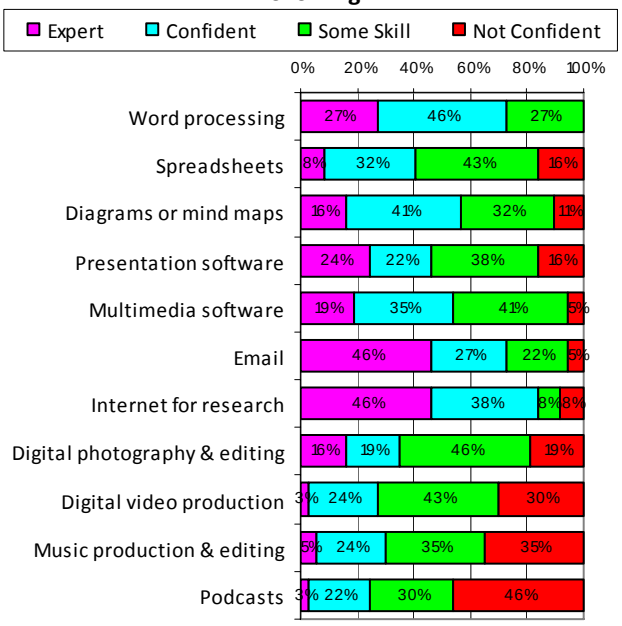
How often do you use the following technologies at SCHOOL for learning?



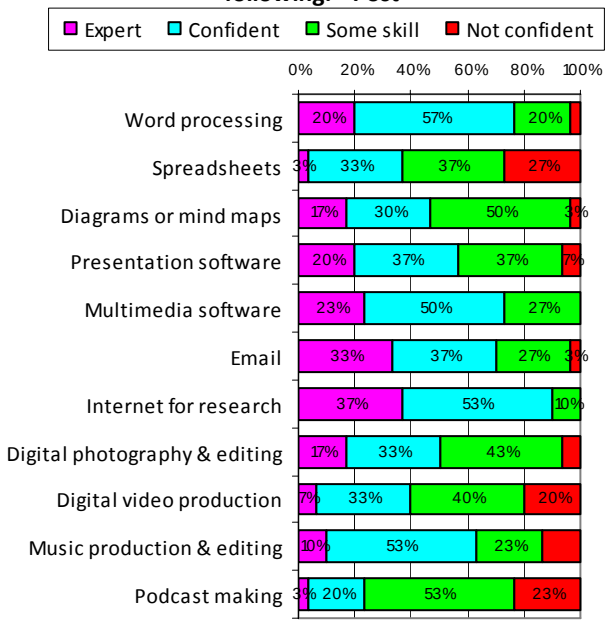
How often do you use the following technologies at SCHOOL for learning? - Post

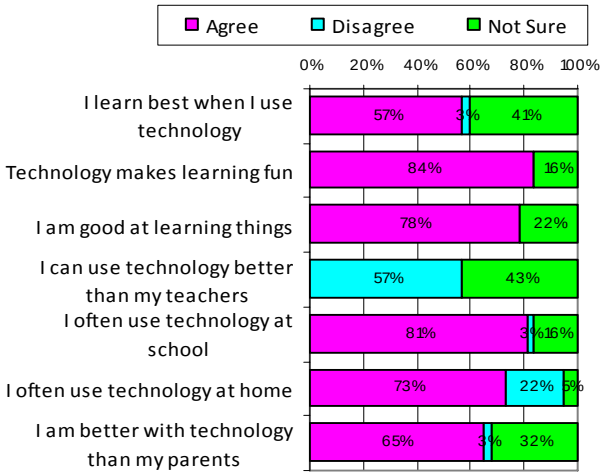
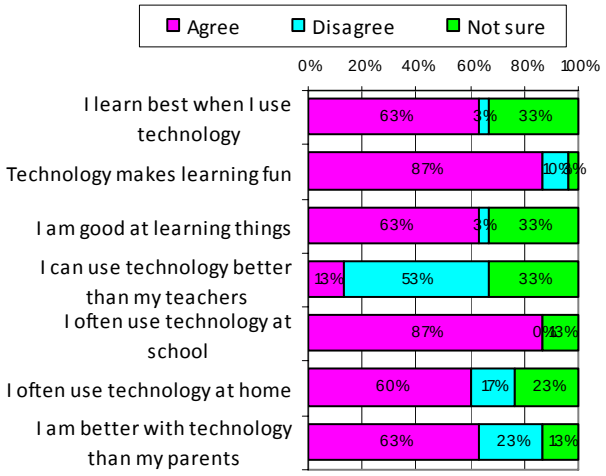
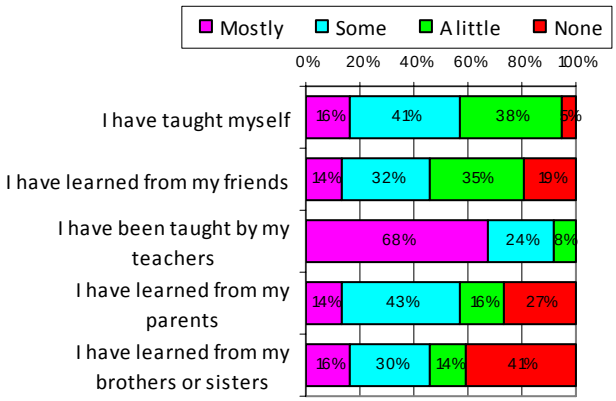
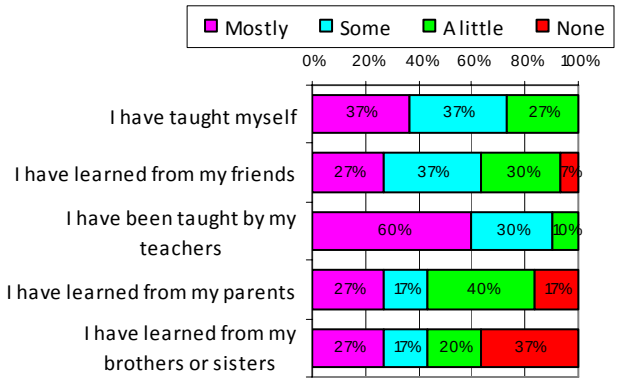
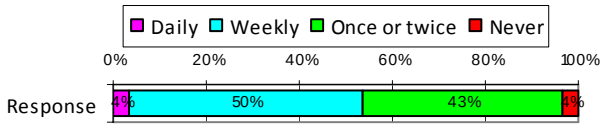
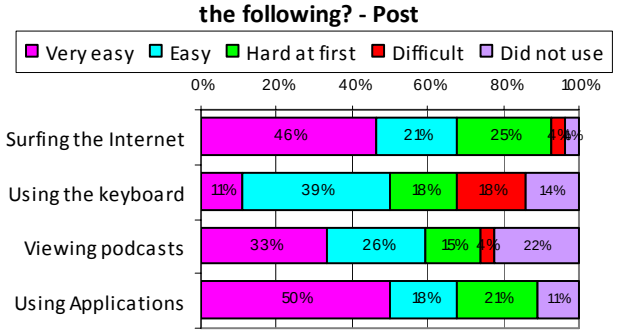


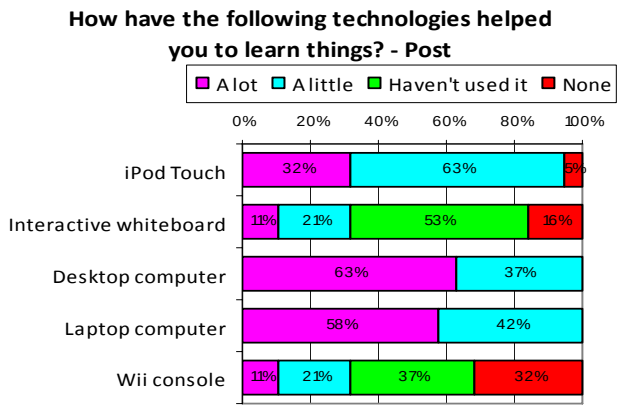
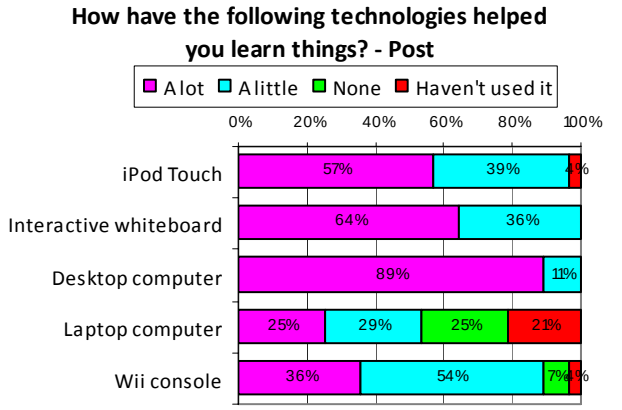
Rate your skill and confidence in using the following:



Rate your skill and confidence in using the following: - Post



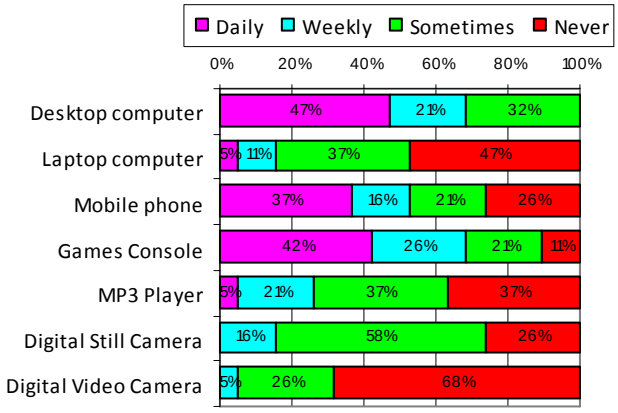
Pre Survey	Post Survey
Do you agree or disagree with these statements? 	**Do you agree or disagree with these statements? - Post** 
How have you learnt to use technology? 	**How have you learnt to use technolgy? - Post** 
	How often have you been using the iPod Touch? - Post 
	How easy was it to use the iPod Touch for the following? - Post 

Pre Survey	Post Survey
	
	

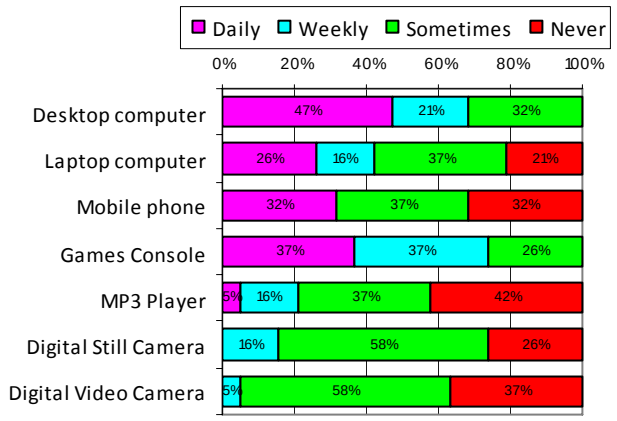
Epsom Primary School Student Survey Comparison

Pre Survey	Post Survey

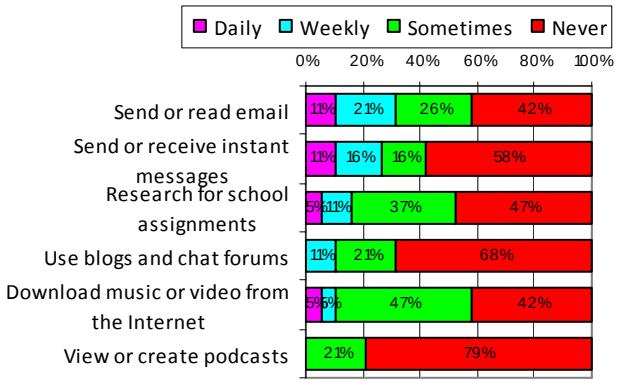
How often do you use the following technologies at HOME?



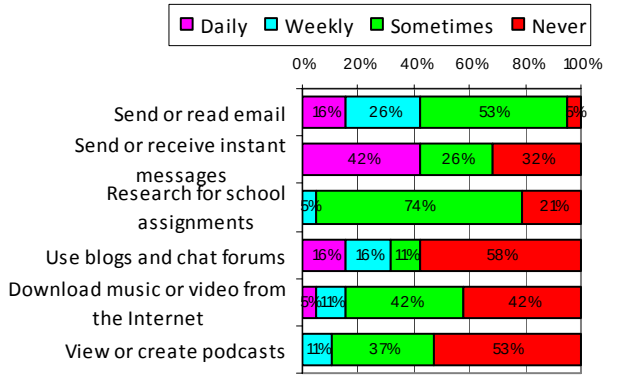
How often do you use the following technologies at HOME? - Post



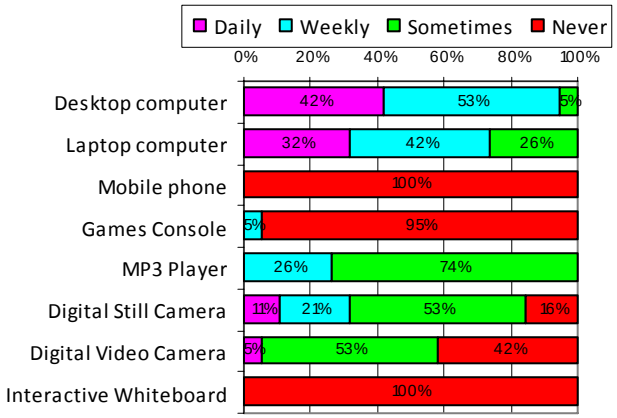
How often do you do these online activities at HOME?



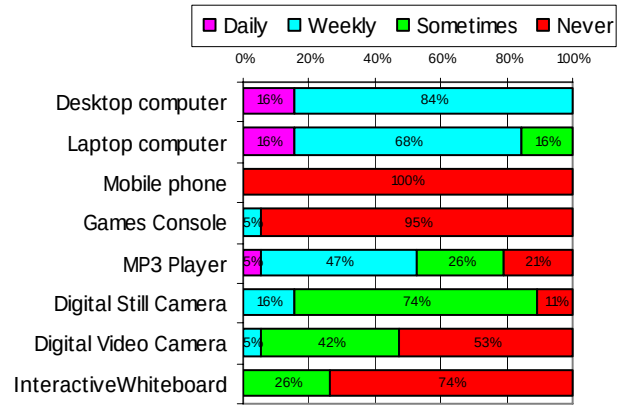
How often do you do these online activities at HOME? - Post



How often do you use the following technologies at SCHOOL for learning?

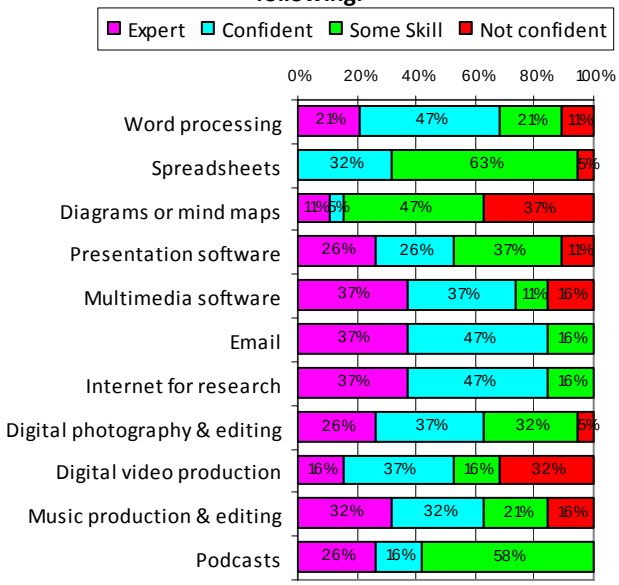


How often do you use the following technologies at SCHOOL for learning? - Post

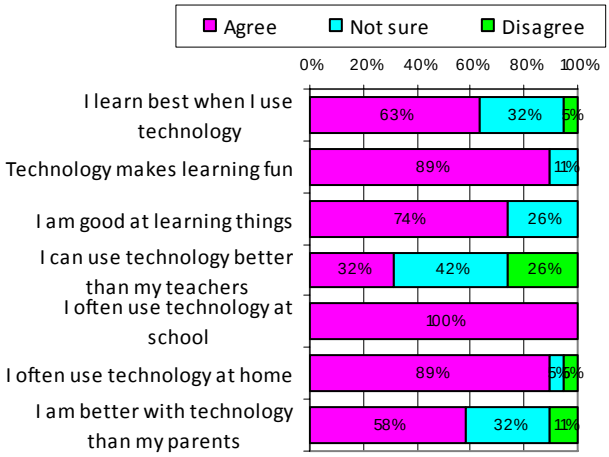


Pre Survey

Rate your skill and confidence in using the following:

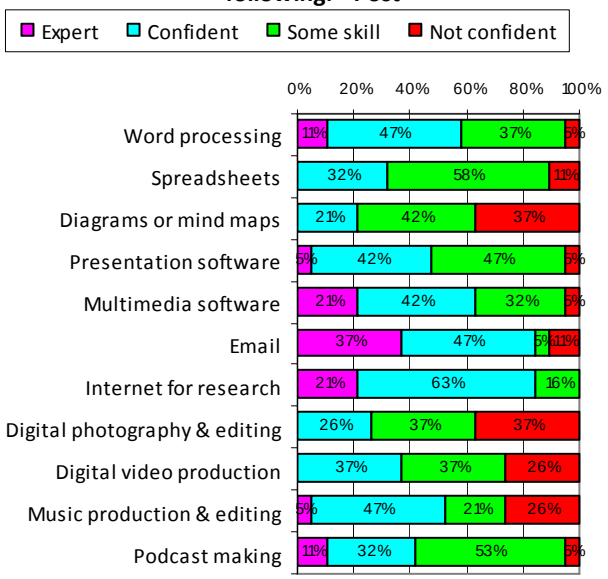


Do you agree or disagree with these statements?

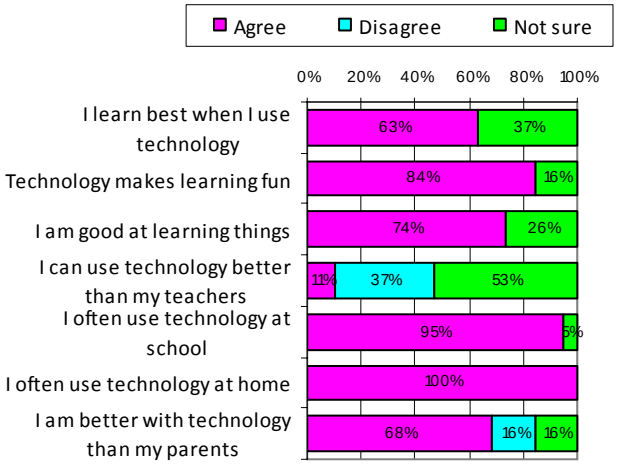


Post Survey

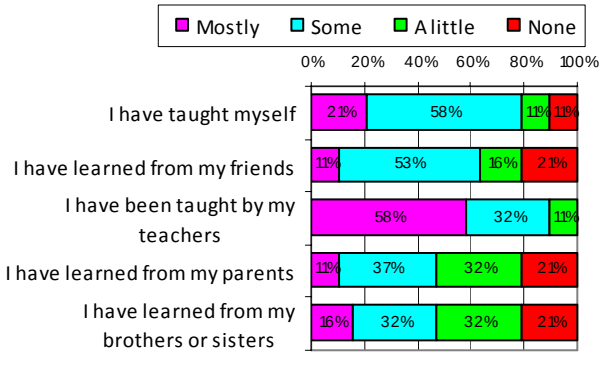
Rate your skill and confidence in using the following: - Post

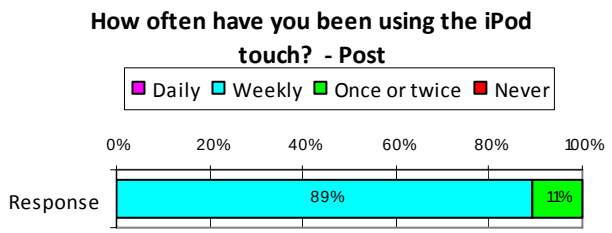
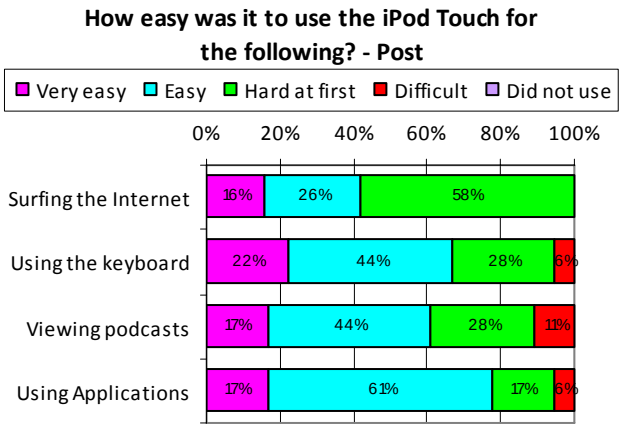
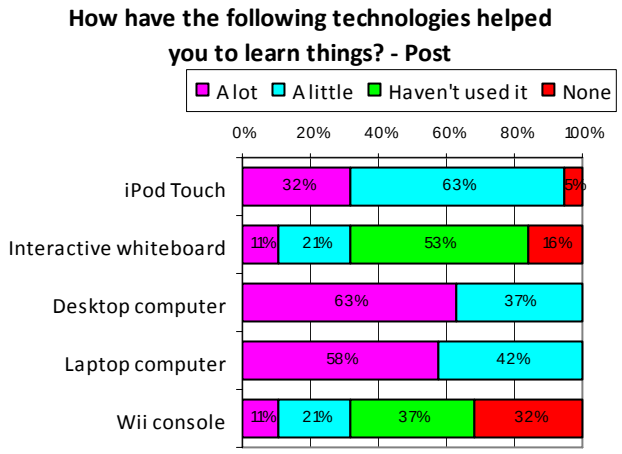


Do you agree or disagree with these statements?



How have you learnt to use technology? - Post



Pre Survey	Post Survey
	
	
	

Appendix D: Parent Survey Data

Parent Survey - iPod Touch Project

Epsom Primary School

Dear Parents

The iPod Touch project is just about to be finished. We would like some parent comments about the impact of the iPod Touch use by your child.

A. Has your child spoken about the iPod Touch being used at school? (Yes / No) If yes, what was their comment?

B. Did your child view the iPod Touch favourably? (Yes/ No)

C. Do you think the iPod Touch could enhance your child's learning? (Yes/No)

D. Do you believe the iPod Touch made your child more interested in their learning? (Yes/No)

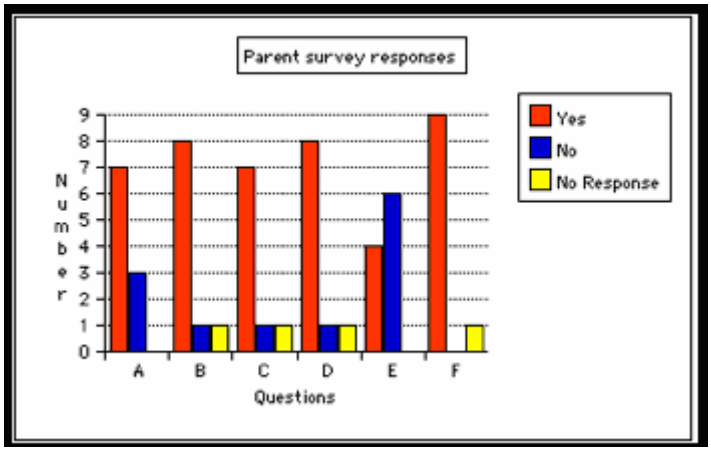
E. Did your child bring home an iPod Touch? (Yes/ No) If yes, were you given a demonstration?

F. Did your child like using the iPod Touch? (Yes/No)

Parent comments:

- (even without headphones) has helped encourage access to Google at home.
- Great and easy for learning. Fun as well.
- Seemed a good learning tool to me.
- These are an excellent asset to the school, gives children an experience that they might not normally have.

Parent response was overwhelmingly positive to the use of the iPods in the classroom.



Appendix E: Corio Survey of iPod Touch Use

Bev Trower, Corio South Primary School

Grade Six Survey Questionnaire on the use of iPod Touch revealed the following:

- 100% children enjoyed using the iPod Touch in their learning
- 47% of the children thought the web browsing facility was 'awesome'
- 73% enjoyed playing games (whilst they were learning and didn't even know it!)
- 47% found the portability to use the iPod Touch for research was 'awesome'
- 50% of the children found iPhotos very useful
- 57% found them enjoyable watching movies they had made
- 60% of the children thought that listening and learning through Podcasts was 'awesome'
- 40% of the children had sent an email from the iPod Touch.

Student snapshots on how the children thought the iPods could be best used at school:

	Comment Text
1.	i think it should be for learning and research
2.	for research and learning and for school work
3.	The iPods can best be useful at school for researching.
4.	For researching on the Internet.
5.	The ipods can be best used for finding information if the computers don't work
6.	They help you the best at school like a computer does its the same except they are really little.
7.	i think learning
8.	The teachers should show us other things on the iPod
9.	The iPod's can best be useful at school for researching.
10.	They could be used for spear time because there are games and they could be use for getting information quickly rather than being on the computer.
11.	So the teachers can show other teachers our good work that we have done on them.
12.	learning like reading spelling and things like that the ipod is so awesome.
13.	Researching
14.	Holding important information.
15.	They can best be used by doing research when you are not using the computers
16.	In nearly everything we do. Math, English, thinking, emailing and sharing our work.
17.	Maths: Because there are maths games and the Internet
18.	I found out that you can learn how to do sign langueg on the ipod touch.
19.	They can be used for entertanment and stuff
20.	By researching things for homework and projects.

The students' favourite iPod Touch activities:

- great for group or individual work
- group work (oral language, boy/girl, cooperative, automatic math, listening etc.)
- ASL lite (signing) app
- Spelling numbers app
- imagination – Brain Tutor apps
- thinking strategies Hanoi app

- spelling – Blanks app
- Check Spell app
- listening to podcasts – great for refugee immersion into English language
- extending learning – web research, making content for others to learn
- it is possible to learn a language on iPods, students loved Beijing Games mini phrase book
- iPhrase – sentence structure then email
- emailing experts.

Appendix F: Epsom iPod Touch Use

Jenny Ashby, Epsom Primary School

Movies/Viewing	Creating for	Research	Data collection	Communication	Applications
Visual Literacy Film Australia-use of Paper Trail movies and reading and writing-Google docs (Epsom) -Echidna movie and questions (Epsom) Instruction -Division (Epsom) -Introduction and instructions using a podcast and iMovie to give instructions for the new job-Inspired. (Epsom) Professional development You Tube movies on 21st Century learning (Epsom)	Audio books (Epsom) Animal Facts (Epsom) Area and Perimeter (Epsom) Recycling (Epsom) Division (Epsom) Gold Medal podcasts made using Google presentations in groups then downloaded and put into Garageband and a sound track added. Exported to iWeb for uploading to the www. (Epsom) Gym podcasts-pictures and voices from our gym visits. Created in Garageband and sent to iWeb for www publishing (Epsom)	Olympic information (Epsom) Ask some questions and find the answers? What would you like to know about the Olympics? Who are our athletes? What countries are in the Olympics? Knowledge to give a base so children can answer higher order thinking about the Olympics. Why do we have the Olympics? Who cares about the Olympics? News (Epsom) today's headlines in the different papers. Compare. Google topics of interest (Epsom) What do you want to find out about? What are your questions? Search strategies Animal facts (Epsom) What categories of information do you need to tell about animals to give a report? What is the status of your chosen animal and why? Why do we need animals? How can we help the preservation of species?	Weather (Epsom) Compare cities around the world. Where is it night time and daytime? Graph the week's temps. Find the difference between max and min temps (mental maths) How does the weather change our life? Maps and distances and times (Epsom) Does it take longer to drive to Brisbane or Perth? Population Counter (Epsom) Compare populations of countries in the Olympics and the size of the teams. Olympic results (Epsom) Medals-Australia, leaders, gold, swimming etc. Create a chart and decide on the headings to collect the data from the results. What will people want to know?	Email-use of webmail (Epsom)	Brain Twizzler-Maths (Epsom) Hang Man-word study (Epsom) phoneview-to add notes via PDF files and then edit on the iPod then put back on the computer (Epsom)

Podcasts-downloaded	Music	Associated work	Assessment	Mathematics	Geography
Waste audit (Epsom) Apple Tip of the week vodcasts (Epsom) Video Podcasts Catalyst-Olympic special-Scientists give our athletes the winning edge. (Epsom)	Ch'n visit iTunes-listen (Epsom)	• Google docs for iPod reflections-use of De Bono (Epsom) • iPod journals (Epsom) • Google docs to model the use of tables and collecting information-collaborative work • Google presentations (Olympic Gold 2008) for collaborative work to present on the iPods and send home. (Epsom)	Ch'n record various quizzes-mental Maths challenges, spelling challenges from specific levels or groups of words that students would like to master. These quizzes can be used by students who want to sit the challenge. This frees you up for other classroom activities. The student can pause and keep going when they like. Great for if/when someone is away and misses the test. (100 most frequently used word-infants) Why not use commercially prepared tests, one may ask? Well, these tests have the social link with a voice they know, either students or teachers, and can provide a challenge.(Epsom)	The weather - add in 6 countries and graph their max. and min. temps. Write 4 questions about your graph (head, heart hands and here) Find the difference between the max. and min. temp in 6 countries. Which country has the greatest change in daily temp. How can you tell which countries are in which seasons? How can you tell which countries are in daytime, nighttime, dusk or dawn. Check out 4 countries and suggest what type of clothing you would need if travelling to visit. Maps-compare distances between cities going various ways to get there, or compare trips - Which is the longest trip, Melb to Darwin or Perth to Sydney? Find your place, navigate to school. Check how far it says it is to get there. (Epsom)	Maps- Checkout statellite verses hybrid etc. Explore different countries Find landmarks around the world. Which are the best landmarks people should visit? Mountains, rivers and oceans (Epsom)

Appendix G: Student Views on iPod Touch Functionality

Jenny Ashby, Epsom Primary School

Yellow Hat (positive/good things)

- loads fast at school
- instant access without having to start up a computer
- movies look good
- podcasts look great
- you can take it anywhere
- easier to carry
- it is really good because it is easy to carry and i love that you can play games(dina)
- it is able to do more than other ipods(rowan)
- start in like no time at all
- it is small enough to carry in pockets.(josh d)
-very small
- just like a computer
- it has songs and can hold lots of stuff
- easy to carry around
- you can check your email (natasha)
- great fun
- I think they are the Yellow Hat Josh B.
- I think they are the Yellow Hat Claudia F.
- I don't believe they are the yellow hat Laura W.
- I think that the iPod changes all the time for me but is mostly the Yellow Hat (Tilley)
- small and fast and the maps would be very helpful. (Emma)

Red Hat (feelings)

- excited
- motivated
- cool
- frustrated
- fun
- very frustrating
- bored when loads slow (Natasha)
- boring
- sometimes complicated (Tilley) -I feel good when I'm using the iPod Touches because it goes so quick and I can just get straight into my work and it doesn't stuff up as much anymore.(Tilley)
- happy when loads quick (Tilley)
- sometimes annoying(Tilley)
- sometimes sad when I really need to do something and it doesn't work (Tilley)
- Bad when it doesn't work (Tim)
- frustrating when they don’t load quick(Emmy Bemmy)
- good if it loads quickly. (Josh d)
- Slow when entering new URL's

- i feel like i'm very fit when

-Fun when they load quick

- it is bloody great(Rowan)

Blue Hat (Thinking about thinking)

If we use them more we will learn more.
If we don't use them any more I will be happy Laura W.

If we keep persisting at them all of our feelings and thoughts would be under the Yellow Hat and the people who are judging them as terrible now just really need to give them a chance considering we hardly use them they can't be that terrible. (Tilley) good comment Tilley

They are a good way to learn> (Josh D)

they are really good to help children in school(Dina)

they can do anything in teaching(Rowan)

Green Hat (new ideas ...perhaps we could..)

- teach others how to use them
- share our ideas
- send them home to show student work to families
- make movies
- screencasts
- have a class on them

- Try to not to use them
- take them away
- Have a day eg. Tuesday that we have 1hour practising things we are having trouble with.(Tilley)

- Have iPod groups and all the people who love, hate or in middle would talk to each other.(Tilley)

-Make it that you don't need the wireless internet. (josh d)

-Make them with the Internet modem built in

have it like a phone but with free computer inter net and still touch

White hat (What information do we have?)

We have 8 Touch iPods to use in the classroom. We have to see if we can use them to learn. We need to find out what works well and what doesn't work. We have to see what other things we can do on them.
We can use iTunes on them u can also watch movies on them and
I have information on what do for new ideas and what I did with them and some applications on them in my iPod Journal. (Tilley)
the internet doesn't all ways work. (josh d)

Black Hat (bad things)

- Flash files won't work
- podcasts won't show on the TV unless they are made in iMovie
- we don't use them enough to be better at using them
- there is no T.V.[dina's opinion]
- everything (Laura) like what?
- When it doesn't
- When it can't find the server (Tilley)
- When people are calling them terrible (Tilley)
- When I really need too get my work done and they are not working.
- When they lose battery(Tilley)
- When things don't load properly and it gets a
- You need the wireless internet. (josh d)
- Have houses on the maps as wall.

Appendix H: Student Reponses to the iPod Touch

Jenny Ashby, Epsom Primary School

Yellow Hat (positive/good things)

the things that I like is that you can play lots of games on them. (claudia)

I like the ipod touches because you can look at maps of the world.(josh D)

I like the fact you can play games and go on the internet. {peter}

I like how you can play games and surf the web. (Nathan W)

I like that you can go on the internet play games and play etcha sketch

I like that you can play games go on to the Internet and maps and other stuff. (Joshb)

There are some good games on it (Tim).

They can be used for a lot of things(nathanb).

i like it how you can carry it round while your using them (rowan)

I like the games, etcha sketch, internet and typing on the iPod touches. [Tilley]

I think the games are creative and I like playing them.(Aidan)

I like these iPods because the games are mostly about learning.

I think the games on them are really fun and they are very creative. (Bradley)

I like the games and maps, so i can look up different places. {Emma}

I really like the games and how you can listen to music on it. (Natasha)

I like how you can view the weather and play games on it. (adam)

I like the games they are fun. (laura)

Red Hat (feelings)

I feel that the ipod touches are good but sometimes they are boring. (claudia)

I feel that the ipod touches are a good thing to have in schools to make learning fun but it can get boring

I feel that we should get some ipod touches to keep for our learning.(josh D)

I feel that I the Ipod touches make working on things fun but they can get frustrating.(Nathan W)

I feel that the iPods make learning funner and interesting(Joshb)

I feel that the iPods help us learn and fun to use. {peter}

I feel that the ipods are fun to use (Tim).

I feel that they are really fun to use(nathanb).

I feel that they are a new evolution.(rowan)

I feel that they are easy and fun to use. [Tilley]

I feel that they are hard to get bored of.

I feel that they are a very handy device. (Bradley)

Sometime i feel that the iPods are better than the computers. (Emma)

i really like them them but they can get a bit boring after a while. (natasha)

I fell they can be hard to use but apart from that they are ok (Aidan)

I feel that it is hard to type but is it only down fall.(adam)

I feel very frustrated with them sometimes. (laura)

Blue Hat (Thinking about thinking)

I like to think about thinking about the iPods like they should have an outside speaker.(Joshb)

I like to think the ipods are phones (Tim).

I like to think that the iPods are a little Computer that you can carry around.(josh D)

I like to think about the ipods like they have a tv. {peter}
I like to think of the ipods as a mini computer(Nathan W)

I like to think that ipods are little computers that can fit in your pocket(nathanb).
I think the ipods are all about learning but it being fun(Rowan)

i like to think about them as they are fun and they need a loud speaker. (Natasha)

I think I prefer computers. (laura)
I think that the iPods are to make learning alot more intresting[Tilley]
I think the iPods are very small and very good to go around places and be able to play with the iPods. (Emma)

I think the iPods will keep getting better better as it has been. (Bradley)
I think they are ok for a little bit of work (Aidan)
I think they would be good alot of work.(adam)

Green Hat (new ideas ...perhaps we could..)

I think we can put a camara on the ipod touches and a keyboard that slides out so it is not touch screen. (claudia)

I think we should have a tv a camera or an mini dvd player and disks and a a mini cd player and disks or a lace were you can plug in

I think they should have an outside speaker and bring out something to stop it from getting scratches(Joshb)

I think they should have slide out mini keyboards(nathanb).

I think the iPods should key boards that flip out.(Emma)

I think the ipods should have a camera or tv . {peter

I think that they shouldn't need the wireless internet.(josh D)

I thik that there should be a phone on it as well (Tim).

I think we could have a touch pen them that u can use for the typing pad.(rowan)

I think that iPods could be remade to have these features, camera, recording (sound), video recording and others.

I think the keypad could be bigger (Aidan)

I think the Ipods should have a loud speaker. (Bradley)

I think the iPods should be a bit bigger. (Emma)
I think the iPods should have a loud speaker so you don't have to use the headphones. (Natasha)

They need in built speakers. (laura)

White Hat (what information do we have?)

We know that we can use the internet(nathanb).

We know that the are good for learning on and are easy.(josh D)

we know that they are simple to use.(rowan)

We know that they can have your bank account on them.

We know you can put all sorts of games on them. (Bradley)

We know you can go on the internet and look up sites and go on the map. (Emma)

We know how to put music on to them. (Natasha)

We know you can put apps on them (Aidan)

We know that you can play games on them (laura)

I think would be cool if they an in built camera.(adam)

Black Hat (bad things)

The bad things are that if your looking up information and you need to copy stuff you can't. another thing is that you can't print it doesn't have apple works and word and stuff like that. (claudia)

The bad thing is sometimes when you sync the ipod it sometimes doesn't work (Tim)

The bad think is that the key pad is to sencortive(nathanb).

the bad thing is that sometimes when you use the keyboard you click thewrong letter or symbol

the bad thing is sometimes the key pad wont work.{peter}

The bad thing is that some have apps and others don't(Joshb)

the bad thing is that the typing pad is to small for people that have fat or big fingers.(rowan)

The only bad thing I reakon is the slowness. [Tilley]

I think that they are slow at typing.

The bad thing is that when you try to type it might type something else. (Emma)

It is bad that they don't apps like appleworks.

They are to small and inconvineiance (Aidan)

I think the typing pad is to hard to use. (Bradley)

I think the only bad thing about the iPods is that the key bored doesn't always work. (Natasha)

They are too small to write on. (laura)

Appendix I: Term Curriculum Plan

***CORIO SOUTH PRIMARY* – TERM 4 PLANNER 2008**

Bev Trower

Year Level – YEAR 6
Teachers – Mr. Shane Ezard, Mr. Paul Grocott, Mrs. Carrie Rowe, Mrs. Bev Trower

Unit Title – *I have a great idea, what next?*

Concept and Key Word: Purpose of Invention

Key Idea:- How do I turn my invention idea into a marketable product?

Essential Questions (maximum of 3):-

- Why and how do people invent new products (the process)?
- What impact do products and uses of materials have on people and the environment?
- What are the most important designs of the 20th century?
- How does the City of Greater Geelong encourage sustainable living?

'Investigation Into' involves:

What students will learn about (content):	**What students will learn to (processes):**
• A range of science-related local issues and describe the relevance of science to their own and other people's lives. • How sustainable practices have been developed and/or are applied in their local environment. • The contributions Australian scientists have made to improve and/or change science knowledge. • The impact products and technological systems have on people and the environment. • The strategies to create a design brief and how to follow the design process, including the evaluation process.	• Articulate their thinking processes and document changes in their ideas and beliefs over time. (Thinking) • Create and maintain an up-to-date, logically structures bank of digital evidence of their learning (ICT). • Provide feedback to others and evaluate their own and the team's performance (Interpersonal Development). • Summarise and organise ideas and information logically and clearly in a range of presentations (Communication) • Describe task progress and achievements, suggesting how outcomes may have been improved (Personal Learning).

Literacy Talk (Oral Language)

Terminology that students will need during the study of this unit:

invention, sustainability, investigate, create, analyse, modify, evaluate, reflect, produce, marketable, consumable, renewable, ergonomic, process, criteria, mechanical, design brief, design process, energy, evidence, feedback, logical, outcome

Assessment measurement instruments

These link to the Essential Questions

Principle 5: Assessment practices are an integral part of teaching and learning.

Ongoing assessing is linked to performance (activity) at each stage of the sequence and not just at the end.

Assessment for: Assessment for learning occurs when teachers use inferences about student progress to inform their teaching.
Placemat
Word Splash

Assessment as: Assessment as learning occurs when students reflect on and monitor their progress to inform their future learning goal.

- Wonderboxes / Notebook
- Webquest
- Students reflect and monitor using rubrics
- Self/Peer Assessment
- Learning Journal

Assessment of: Assessment of learning occurs when teachers use evidence of student learning to make judgements on student achievement against goals and standards.

- Independent Inquiry
- Data Chart
- The Artist's Choice
- Rubrics
- Learning Journal

VELS Standards / Learning Focuses to be addressed in this unit

PHYSICAL, PERSONAL AND SOCIAL LEARNING

Personal and Social Learning- Level 4 | Health and Physical Education - Levels 3 &

DISCIPLINE BASED LEARNING

ENGLISH - Level 4 | Maths - Level 4 | Science and Humanities - Level 4 | Arts - Levels 3 & 4 | LOTE - Level 4

INTERDISCIPLINARY LEARNING

Calendar Principle 2: The learning environment promotes independence, interdependence & self motivation.	**Theme Activities** Principle 3: Students' needs, backgrounds, perspectives and interests are reflected in the learning program.	**Literacy** • Focus • Activities • THRASS • OLE	**Numeracy** • Focus • Activities • Unit	**Thinking** Principle 4: Students are challenged and supported to develop deep levels of thinking and application.	**Assessment** Principle 5: Assessment practices are an integral part of teaching and learning.
WEEK 1 *6th – 10th October*	**Tuning In… (to our thinking** *Placemat* – Groups of 4, identify the object *Hot Potato(TPS)*- put one question on each table, kids get limited time to write what they know (can write from the bottom and fold it up each time so they don't see the other responses) *Draw an inventor* – Cluster web with picture in the middle, labelled and word knowledge around picture *The Lorax (video.google.com/videoplay?docid=6650219631867189375)* – Sparking interest, emotion towards sustainability then leads into a T Chart with comparison between The Lorax & today's environment	**Ongoing** Literacy Circles Vocabulary Extension THRASS Key into Inferencing Oral Language **Narrative – Mystery Stories** Noticings Descriptive Settings Video clip (moonwalking bear) Character Traits / Description Somebody run through tech. room squealing and children need to identify character **iPod Touch– Research See Mystery Narrative Planner – Think Quest Activities & Record descriptions of intruders/scan illustrations make into podcast.**	**Unit 19** **Adding & Subtracting Decimals** *Number Working Mathematically* TB pgs. 78-80 SB pgs. 54-55 **iPod – Hanoi Tower**	Goal Setting based on learning behaviours Review processes throughout term Revise Thinker's Keys **Team Player** In social situations, respect diversity **iPod Touch – Word Lite – Multi Team Game**	*Probe ongoing all grade done end of the semester* Placemat Word Splash Wonder Box Notebook **iPod Touch– Blogs/journals & emailing**
WEEK 2 *13th – 17th October* *17th October* Show Day Shell Excursion	**Finding out more…** Immersion 1. Solve the scenario and construct something using the design process (Bev) 2. 3 Groups looking at Local, State and Government initiatives to encourage sustainable living (focus on is that an invention) (Carrie) Class – Write discoveries and wonderings developed after	See separate Mystery Unit **iPod Touch – Sherlock Holmes** **iPod Touch content – ESL Mr. Archimedes Bath with Aus animals.**	**Unit 20** **Fraction Operations** *Number Structure Working Mathematically* TB pgs. 81-83 SB pgs. 56-57 **iPod Touch – Untangle Lite**	**Team Player** In social situations, respect diversity **iPod Touch – Scribble Pictionary**	Maths – pg 58 **iPod Touch– Blogs/journals & emailing**

	immersion activity, Learning Journals				
WEEK 3 *20th – 24th October*	3. 20 inventions provided and then TPS of Top 10 (Shane) 4. Development of the telephone and impact on socialisation, skit "what would happen if telephone wasn't invented" (Paul)**MOVIES** Class – Write discoveries and wonderings developed after immersion activity, Learning Journals/Blogs	**iPod Touch – Blanks, vocab knowledge and definitions**	**Unit 21** **Volume** *Measurement* *Chance & Data* TB pgs. 84-86 SB pgs. 59-60 **iPod Touch- iMath Test Lite &** **Time lines inventions**	**Communicator** **Asking Questions after listening or viewing something** **PodCast – Science Show**	Maths – pg. 61 Persuasive Tex **iPod Touch– Blogs/journals & emailing** **Survey Monke - CSPS**
WEEK 4 *27th – 31st October*	**Sorting out and making connections…** 1. Data Chart – using all collected information present in a chart. Jigsaw concept using each source 2. Create a dramatical or musical performance sharing their knowledge of the essential questions **iPod Content– Film Musical performances** 3. Revisiting earlier work… how has our thinking changed?	**iPod Touch – Research essential questions gathering data to present.** **iPod Content–Mystery iPod Content–Stories -Keynote**	**Unit 22** **Factors** *Number* *Structure* *Working Mathematically* TB pgs. 87-89 SB pgs. 62-63 **iPod Touch – Mathematician and their discoveries&** **iMorse - email**	**Communicator** **Asking Questions after listening or viewing something** **iPod Touch** **Why Is it so?**	**iPod Touch– Blogs/journals & emailing**
WEEK 5 *3rd – 7th November*	1. What would happen if TV wasn't invented? (Play)**MOVIES** 2. Choose the best invention and persuade your audience to purchase. (Advertisement) 3. Re-enact the design process involved in an invention**MOVIES** 4. Council campaign (Political Speech / Characterisation) AUDIO	**Procedure** **How to use iPod Touch & a Wii, make a Mii – iPod content**	**Unit 23** **Number Patterns & Relationships** *Number* *Structure* *Working Mathematically* TB pgs. 90-92 SB pgs. 64-65 **iPod Touch –iTic Tac & Peg Jump**	**ICT User** **iPod Touch Sending emails to known & unknown recipients (experts)**	Maths pg. 66 **iPod Touch– Blogs/journals & emailing** **iPod Touch Research – Student Surve**

WEEK 6 *10th – 14th November* 3-6 Swimming	**Going Further (Personalised / Independent Inquiry)** My Invention **iPod Touch**	**Procedure** **iPod content - Manual to survive grade six – audience grade five. Podcasts to share.**	**Unit 24** **Polygons** *Measurement* *Chance & Data* *Space* *Working Mathematically* TB pgs. 93-95 SB pgs. 67-68 **iPod Touch - Morocco**	**ICT User** **Sending emails to known & unknown recipients (experts)**	Maths pg. 69 **iPod Touch– Blogs/journals & emailing**
WEEK 7 *17th – 21st November* *21st November* Report Writing Day	**Independent Inquiry** **iPod Touch**	**Procedure** **iPod content - Camp Cooking - podcast**	**Unit 25** **Chance** *Measurement* *Chance & Data* *Working Mathematically* TB pgs. 96-98 SB pgs. 70-72 **iPod Touch – Schedule camp reminders & maps& weather**	**Thinker** **Develop questions to research & collect info.** **iPod Touch**	Maths pg. 72 **iPod Touch– Blogs/journals & emailing**
WEEK 8 *24th – 28th November* *26th – 28th November* Camp (Cave Hill Creek)	**Independent Inquiry** **iPod Touch**	**Poetry** **iPod Touch – Giggle Poetry.com**	**Unit 26** **Application of Fractions** *Number* *Structure* *Working Mathematically* TB pgs. 99-101 SB pgs. 73-75 **iPod Touch - Stones**	**Thinker** **Develop questions to research & collect info.** **iPod Touch**	*Independent* ***Inquiry Learning Journal***
WEEK 9 *1st – 5th December*	**Independent Inquiry** **Camp Follow-up** **iPod Touch Photos**	**Poetry** **iPod Touch Content– Photos and Poetry!**	**Unit 27** **Decimal & Whole Number Operations** *Number* *Working Mathematically*	**Learner** Implement plans to complete tasks **iPod Touch**	Maths – pg. 79 **iPod Touch– Blogs/journals & emailing**

			TB pgs. 102-104 SB pgs. 76-78 **iPod Touch - Sudoku**		
WEEK 10 *8th – 12th December* *9th December* Orientation Day	**Reflecting and Taking Action (Culminating Tasks)** Publish and celebrate inquiries *How can we share our learning with the school?* **iPod Touch**	**Revision** Celebration & Publication	**Unit 28** **Measuring** *Measurement* *Chance & Data* *Working Mathematically* TB pgs. 105-107 SB pgs. 80-81 **iPod Touch – Chess Puzzles**	**Learner** Implement plans to complete tasks **iPod Touch**	*Writer's Notebook* *Reading Journa* *Maths - Term Assessment*
WEEK 11 *15th – 19th December* *16th December* Graduation		**Revision** Celebration & Publication			

Resources

List resources recommended. They should be varied in format and should be selected because they are relevant to the inquiry, support students in the exploration or investigation, are appropriate to the literacy skills of the users, and are readily available. …

Excursions/incursions	Books/Magazines/ Papers	Internet Sites	Videos/DVDs
Fitness expert - Ben Rowe (Personal Trainer) Stir-fry Lunch	Get out, get active	www.olympic.org web.mac.com	Olympic Footage

Community Link

Principle 6: Learning connects strongly with communities and practice beyond the classroom.

Celebration of Independent Inquiry
Concert – 17th September
Swimming
Cave Hill Creek
Duke Of Ed

Reflection

Principle 1: The learning environment is supportive and productive.

Plus	Minus	Interesting / Improvements