

# OREWA COLLEGE ONE TO ONE DEVICES AND THE PATH TO THE IPAD

## Introduction

Close your eyes, block your nose, jump off ....splash!! Now can we swim .....

“Walk the Talk” or “Chalk and Talk”?

Three years ago Orewa College was one of the few state schools who said to students you can bring a laptop to school, any laptop, and log into the school’s network, just as you would if you were staying in a hotel or visiting the many free wireless points in many cities.

Three technologies had finally become available to Orewa College and the wider community:

1. High speed fibre connection to the Internet (not at first, but now);
2. Reliable high speed wireless technology covering the school site;
3. Affordable, portable computing devices such as Netbooks and laptops, iPads (and the similar competitive pad devices) and smaller devices such as iTouch and Smart Phones.

Yet students were not bringing them, teachers were not changing their pedagogical approach. It was a chicken and egg situation.

Still there remained, and is an increasing demand through curriculum, for access to computers and computer technology. Budget wise this is a demand that the school cannot meet by increasing the number of computers in the school. As it is, maintaining the current plant is expensive. Yet in the world our students will move into, either as a professional, as a trade’s person or as labourer, they will predominantly use computer technology.

## A brave decision for a state school!

“In 2012 students will be **required** to bring a one to one device at Year 9”.

## What’s worse? Gasp!!! Horror!!! We are asking that the device be an iPad!

This is the decision we have come to, how we have come to it, how we have implemented it, and how it has gone to date. Ideas, problems, successes and failures, this may hopefully save you some time.

For more information, some video and access to the research

<http://ipadsatorewacollege.wikispaces.com/I-pads+at+OC+%3F>

## THE BACKGROUND

The digital revolution, high speed Internet, Web 2 technologies, anywhere, anytime, philosophy has been the talk in Education for the last 10 years. We started with the desire to leverage emerging ICT capability and the rich information environment of the Internet with a student centred learning approach. Here was the technology that, at last, would help us be the "Guide Beside" rather than the "Sage on the Stage".

It cannot just happen. From their first day at school, students in the majority of cases are conditioned to be dependent on the teacher for learning. Often with a chalk and talk pedagogy (albeit digitised). This dependence may be slowly modified and students weaned off it through middle school but it is often exaggerated in a secondary environment, which, through its examination systems, puts a real time constraint on the curriculum. The staff have to get through "the stuff" and the easiest way (well, the perceived easiest way) is to revert to kind, chalk and talk, fill the "jug with water" and hope it sticks.

Some teachers who try the much more student centred, interactive, student paced, Web 2.0 type pedagogy are often faced with a resistant learner because the learners have been conditioned to the teacher lead type teaching. This of course is more passive for the learner and thus requires less effort for the student and is the easy way out (the adolescent mentality).

So, a teacher trying to change their own pedagogical habits (habits are hard to change), is often faced with negative feedback from a resistant learner who has been conditioned to another paradigm of teaching and learning.

What if we could change our teaching from day one of schooling so the students know nothing else?

This is our challenge in the next 5 years; not just at middle school, but from day one of learning. We could "teach smart" and use the technology how we know it can be, with rich audio visual, web 2, cooperative learning tasks and environments that students can track through at their own pace.

Many of the learning management systems are great for this. What we need is for all teachers to take the time to set up their learning resources tasks, activities and work through them modifying them, improving them as we go, much the same way we do with paper but doing it in the learning management environment. (ERO call this "Inquiry based teaching").

Yes, we dabble with this and we set homework based on the web or some sort of digital task. But, five days a week while at school, students (at least in a big secondary school) get little access to a computer and the web.

If students have laptops they can learn how to use these wonderful learning programmes as a default rather than the 3 periods that a teacher has "managed" to book in a lab.

## THE PROBLEM

- a) An increasing demand through curriculum for access to computers and computer technology. Budget wise this is a demand that the school cannot meet by increasing the number of computers in the school. As it is, maintaining the current plant is expensive. Yet in the world our students will move into either as a professional, as a trade's person or as labourer, they will predominantly use computer technology.
- b) The educational benefits of one to one access to computer technology in learning. The research is solid and well documented. The change in learning engagement, teaching and learning pedagogy is clear. The thinking and learning outcomes are evident in studies of one to one engagement in technology. (See the research on the wiki).

## **FINALLY AN OPPORTUNITY - A CONVERGENCE OF TECHNOLOGIES**

Three years ago Orewa College was one of the few state schools who said to students you can bring a laptop to school, any laptop, and log into the school's network, just as you would if you were staying in a hotel or visiting the many free wireless points in many cities.

Three technologies had finally become available to Orewa College and the wider community:

- 1) High Speed Fibre Connection to the Internet (not at first but now)
- 2) Reliable High Speed Wireless technology covering the school site
- 3) Affordable, portable computing devices such as Netbooks and laptops, iPads (and the similar competitive pad devices) and the smaller devices such as I Touch and Smart phones.

Yet students were not bringing them. Teachers were not changing their pedagogical approach. It was a chicken and egg situation.

When asked why not bring a machine to school? The students replied "why would we". It is a hassle and the teachers are not doing anything different that would cause them too. The teachers responded to the question "why don't you do more ICT based student centered lessons? The answer was "we can't get access to the labs, there are not enough students with laptops to change what we are doing".

## **A BRAVE DECISION FOR A STATE SCHOOL...**

"In 2012 students will be **required** to bring a one to one device at Year 9.

What device?

Essentially, any device that has up to date wireless and is internet capable.

However, after much reading thinking and research we chose to recommend....

..... **gasp!!! Horror!!! We are asking that the device be an iPad2.....**

## **ISSUES THAT WILL ARISE:**

### **Parental Resistance**

- Why isn't what you are doing now good enough?
- Security
- Health (wireless)
- Why the iPad?
- The students will spend all of their time on Facebook or playing games
- Cost

### **Discrimination**

Based on students not being able to afford the iPad will be subject to educational **discrimination**.

Students who resist, cannot afford etc. will remain in normal classes with students with iPads. These students will still see and hear what is going on, have a bit of shared access, but will inevitably need to have exercise books and get access to the library computers before school, lunchtimes, and afterschool to access work on the Ultranet (The learning Management system).

The school will undertake to purchase a reserve of iPads that can be issued for real proven cases of hardship.

## **The Technology**

How are iPads going to connect to the wireless?

How will we manage the data flow?

How will we manage student access to the LMS accessing resources and learning posted on line and submitting work?

## **Why one year level?**

- You have got to start somewhere! Year 9 is the first year at our school students are out of a homeroom situation and this is the predominant way our school is timetabled, so, if the one to one device is going to work it has to work at Year 9 before it rolls through the rest of the school.
- If we make this demand on students and families, it has to work.
- Technically (so smaller group to start with).
- Pedagogically, teaching and learning must change to take advantage of a one to one device in the classroom, so the professional development and planning for the staff is with a smaller manageable group.

## **We tested and tried:**

- A variety of Netbooks \$499 to \$1500
- iPad 2
- Acer Tablet running Android 3 (Acer Tablet only decent tablet at the time of the decision, since then Motorola and Samsung become available which may be worth a look at).

## **iPad2 - The main reasons:**

- Light, portable, robust, and LONG BATTERY life.
- The icing on the cake - the APPs.
- Netbooks could be cheaper but not if you wanted a good one with a good battery.
- Even good batteries were not lasting heavy daily use.
- Android and alternative tablets are on the horizon and we have tried a few but they are not yet there. Do we wait or act now? If we wait with regard to technology we are always looking at what is coming over the horizon. The mobile iOS has been around for five years now and even the first iTouch devices are still working and can upgrade to iOS 4.

<https://ipadsatorewacollege.wikispaces.com/I-pads+at+OC+%3F>

## **BOT**

Meet with the BOT special meeting to outline the problem and possible solution  
i.e Ipads

- Main concerns
- Legality
- Cost to parents
- Can the school infrastructure handle it i.e will we be creating another cost for the school un anticipated

Once satisfied they gave the go ahead.

## **WHAT ABOUT THE TEACHING STAFF AND THE PEDAGOGY?**

**This is/was always going to be the key!**

Ok, so we now had to present the idea to the staff.

### **Firstly**

HoDs meeting and discussion - Agenda / Discussion Points

- One to one devices, the rationale as outlined above.
- iPad device of choice - reasons
- Start with Year 9 classes
- School will subsidise half the cost of an iPad2 with all staff teaching Year 9 and staff will own the ipad (paid off over 2 years coming directly out of salary)

- Staff will need to be enthusiastic and teach at least 2 Year 9 classes and be prepared to totally change their pedagogy and undergo extensive professional development over the next 6 months.

### **Staff Meeting**

Oooh, arrgh session with iPads - have a play and presented our reasoning and what we proposed. This session was not the best. Unfortunately the presenter we preferred had laryngitis and so probably we took a little step backwards here!

Wiki available with our thinking and the opportunity to give feedback  
<https://ipadsatorewacollege.wikispaces.com/I-pads+at+OC+%3F>

### **So Which Staff Will Take On The Challenge?**

We had 65 Year 9 timetabled classes in 2011. Core and options.

With staff teaching two classes at Year 9 at least, on paper, we could reduce the number of teachers teaching Year 9 down to about 50. (The aim was five in each major department and two or three in options). Staff must teach at least two Year 9 classes. The reason? The Professional Development time and planning expected. Time and effort. With one class it is too easy to put aside if other pressures come on. Yes it means timetable compromise.

“If I have to lose my favourite Year 11 sports academy class... so be it, I am committed to this change” Staff and HoDs discussed the idea further in the department meetings and put forward the names of two staff members each who would lead the initiative in their department.

Staff were directed to the Wiki site and to read and make further comment to which we responded and addressed their concerns, where we could, and made comment.

### **WITH NO MAJOR OBJECTIONS FROM STAFF AND HoDS THE PLANNING WENT AHEAD**

#### **Initially**

- To start with, we would get a group going.
- Two lead staff from each department for the initial training.
- These staff would learn the basics of how the iPad works and be part of the bigger group in the school to trial and discuss the “Apps” that students would be required to have as a year wide approach and the subject specific Apps.

#### **Who will supply the Device? How will staff pay for it?**

We contacted Equico from whom we lease the tela laptops. They had been working with Cyclone Computers on other laptop schemes so met with both parties to discuss the issue.

Staff at Cyclone Computers were excellent in helping rationalise what we were doing and providing advice and options at all points of the decision. While they had not been involved in iPads for schools on such a scale they had supported schools implementing laptop programmes. Cyclone could offer two year leases through Equico on the school’s master lease agreement at the educational finance rate.

We could offer the same very good deal to parents but the school would carry the risk of defaulters. If Equico worked with parents direct via Cyclone Computers, the deal was a little more expensive for parents but took the school out of the supply finance warrantee loop.

This was the path we took for parents initially.

Staff would go 50 - 50 with the school on the cost of the device using the schools lease agreement and direct debit from payroll.

[See staff users pack and agreement](#)

#### **Perfect!**

Parents could, of course, purchase a device from anyone, anywhere, but we were giving them a cheapest option at the time.

The school contacted other suppliers such as Noel Lemming and Harvey Norman but they were not too interested (possibly we contacted the wrong people).

An action plan for implementation of PD development of infrastructure solving of technical issues and informing parents was put in place.

(see attached links)

**SO....**

Project leaders Mark Quigley and Tony Zaloum split the project up into:

**Pedagogical (Mark Quigley)**

- If we are going to have students bring machines to school, how will this change the pedagogical approach by staff?
- What support and development will they need?
- How will this be delivered?

**Technical (Tony Zaloum)**

- How it will all work on the Network, the issues outlined above.

Tony and Isometric Solutions got to work on this and have made huge progress.

**Public Relations (Kate Shevland, Principal)**

- How do we release this initiative to the school community and the parents of the Year 9 students?

**THE PROJECT BEGINS**

An initial 25 iPads for the staff were procured at the beginning of July and PD was started.

The iPads arrived and the first 25 users were told to pick up the machine after school in the library (these were the very keen ones - within 2.7 seconds of sending an email out that they can pick up their iPad, they were queuing at the door ... no way were they waiting until after school).

A Users Agreement and starters pack was developed for the staff to get them started.

An after school meeting the next week was scheduled and an Apple trainer from Cyclone attended an initial meeting to trouble shoot initial problems and understandings.

## TECHNICAL

These are all problems that we have worked alongside our ICT service provider to solve. We have not solved them all yet but we do have time and are making good progress

Essentially, we have set up two wireless VLANS. One, very open that staff log into and one for students that is far more controlled.

Neither clients, staff, nor students recognise which VLAN they are going on. They just see the wireless and connect using their school log on and password. The network determines which VLAN they use based on the log on they use.

The school then gives open access to the Internet through our fiber. The speed of the connection for the students is throttled to about the same as home broadband, which restricts to an extent online game playing and excessive down loading.

Watchdog filters Internet content from outside of the school and seems to do so without effecting network speed.

Data down load usage is randomly monitored and excessive data download is investigated

It is an evolution of trust and responsible use that the school is trying to achieve with the students. This will take time and staff are having to work on classroom management strategies with regard to students having devices and using them all of the time in class.

A working group of staff and students are currently developing a set of student protocols and user guidelines that will protect our network. The copyright laws and also give students "free ish" access to the internet.

The goal is to develop the infrastructure so that we can mange the data flow in such a way that if students choose to go to non-educative sites, we can charge them a nominal rate per megabyte but education sites are free (a white list that they can add to through the library).

Students, through the device, can access work from Ultranet, our Learning Management System, and can hand work in through a system called web-dav, essentially a web based system file management system of drop boxes that we have set up and made available to students of the school, and through which staff can access through their iPads or through any school computer.

Issues still being worked through:

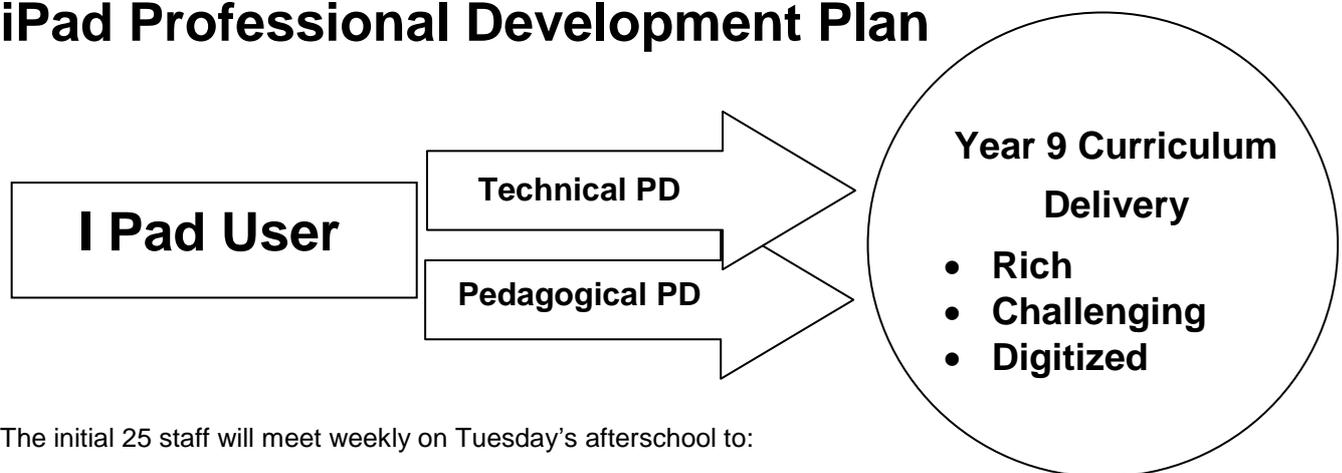
- iTunes on staff laptops and where the media is stored
- The Firewall
- Printing and data tracking



# The Pedagogy



## iPad Professional Development Plan



The initial 25 staff will meet weekly on Tuesday's afterschool to:

- Share knowledge and discoveries about how the iPads work
- Share information on the Apps
- Be informed about technological systems for using the iPad at school.

This is a four week process, including two weeks in the holidays, in which a huge amount of information is shared. Basically it is play time "have you seen this!!!!" Week six, the emphasis must change.

### Phase Two

OK, so we have a reasonable idea of the capabilities of these devices.

"How will every student having a device in 2012 and access to the network:

- a) change the way you deliver the curriculum
- b) improve on what you do now.

What makes one to one devices, and specifically iPads, an advantage to better educational outcomes?

- We still meet "informally". No agenda every Tuesday in one venue but more so in departmental groups.
- Cyclone provide an "expert" to help with thinking and ideas once a week on Thursdays with whom staff can book an hour.
- Relievers are provided for these days on an hour by hour basis.
- Departmental groups can book inservice days during which they can work together and relief is provided.
- Experts are invited in to give talks and advice to bounce ideas off.
- The next three staff from each core department get their iPads and are supported by the initial group.

## PUBLIC RELATIONS

Concurrently to all of this happening:

- We need to inform our parents of Year 9 students in 2012
- As we are a Year 7 -13 school, most of our Year 9 2012 students are already enrolled in the school and, through a personalised letter home, parents are informed of the decision for 2012 and invited to a series of meetings to have their concerns heard, questions answered and to try the iPads.



[See attached letter and link to information on website](#)

Parents are also directed to the Wiki and our website, and are invited to anonymously give their opinions and thoughts.

All are responded to on the Wiki site.

### The Meetings

Held over three nights, two slots per night, with small groups invited so that everyone gets the chance to ask, listen, try, and air concerns.

Meetings start with a talk by the Principal and Deputy Principal leading the project. Mention made of an agreed arrangement with Massey University to evaluate the programme.

Move to a comment/Q&A time, then move to the school library where staff will be present to talk to parents in smaller groups, demonstrate the iPads and allow parents hands on with them.

The numbers for each meeting were reasonable but not large.

Concerns were voiced but, on the whole, each meeting ended with very positive feedback from parents.

Things seemed to be good.

Then, a month later, one parent contacts the Media and a plethora of uninformed reporting takes place.

Four types of feedback:

- From the ICT community giving comments and advice
- From businesses wishing to offer deals
- From schools/educational groups wishing to work with us
- From the general community (not our school community) giving comments. Radio – TV – Net – Print

Eventually – from heat to light, and a stronger, positive overall reaction.

- We kept our school community informed during the media storm, and passed on the favourable purchase/lease option.
- We responded to the emails.
- We accepted invitations to contribute to educational forums and responded to genuine concerns raised.

Now, in Term 3, we intend to meet with parents of students coming in at Year 9, 2012, from other schools.

The message will be the same as previous meetings except enhanced by:

- More purchasing/leasing deals
- More staff training has occurred
- The Massey researcher will be present
- Further reports eg New Zealand Institute, reinforcing the effectiveness of on-line learning.



# Evaluation

How's it all going?

Monitoring

Is it making any difference?

What has changed?

Massey University PhD student is monitoring the project and writing his thesis

## **MUST HAVES**

Fast or reasonably fast Broad Band

Talk to your provider

Vector worked well with us

A good Wireless network

Again talk to RUCKUS

ICT support who know how it should work

Only Isometric solutions have been there done that and are doing it have experienced it so you must talk to them