

Keeping up with the Joneses

A beginners guide to starting a digital revolution.

Keeping up with the Joneses

Education in this country has a proud record of leading, we are innovators who are blessed with a forward thinking curriculum and school structure (Tomorrow's Schools) which is truly owned by the participants.

We have immersed ourselves in collaboration and sharing evidenced by many successful school clusters.

My aim is to help those starting out to get a successful grounding, to kick start their *mLearning. I am aware that this paper does not cover the wide range of mLearning we have in New Zealand schools, however, I feel it is important that we bridge the divide between the early adopters and those who are dipping their toes in the water.

I know there are fine examples of New Zealand schools leading the way on the mLearning continuum. I have seen many mLearning schools and classrooms around the world. I am willing to meet with schools, principals and boards and talk through implementation and planning at any level of the scale.

I have written the report aiming at those who are not sure where to start. It is also for those who have made a start through good intentions, a good teacher or the fact that they know they need to get into the mobile learning revolution.

Writing a blueprint for mLearning in schools is a difficult and complex job. Getting a blueprint that meets your exact needs is nearly impossible, however, I am hopeful that in sharing this synthesis it will help you with some pieces for your puzzle.

The following topics have been covered :

Current Situation

Research

Leadership

Tools for Review

Physical Considerations

Acknowledgements

I am currently working on an epub version of this document which has many videos and photos from schools I visited. This is a large file and its circulation will be difficult in the present bandwidth climate of NZ. It helps gain a wider perspective of the views in this report. Please contact me directly for access to this epub.

*mLearning - refers to mobile devices used for learning

Fellowship Report - Luke Sumich

Current Situation

This fellowship was an opportunity to research mobile learning (mLearning) and help schools and or Boards of Trustees to make decisions around devices and their possible implementation. This is not a paper that will say “this is a good school” or “I saw this app or these devices”. As with all school visits you see the good the bad and the ugly, my goal was to synthesize where schools have made clever decisions and bring these to school leaders to help you with your implementation.

To begin with I have seen many schools jump in the deep end with big ideas and well meaning intentions. Everyone has made mistakes along the way what I am hoping to do is help you re-evaluate your start point.

On every school visit I made it was clear to me that any school making a difference had leadership and conviction in their change. Every school without educational leadership was rudderless and teachers or tech leaders were the tail wagging the dog or worse still; a few isolated dis-jointed islands.

So to lead in this mobile learning era you must have the big picture sorted and you must have the vision of what you are trying to achieve nailed.

The NZ curriculum is a great document which has been throttled by political influence, you can moan about the influence or get on with the implementing this document.

So what has this have to do with mobile learning? When we look at the key competencies the learner is at the centre of five areas. The values of the NZ Curriculum in your school would have been developed with the learner at the centre. The vision and principles of the NZ curriculum have the learner at the centre.

A while back, some clever maths nerds decided to challenge the way we taught maths.

They looked at teaching for understanding, using strategies, this was a huge shift, but we didn't change maths content we changed context. We kept the kid in the centre and changed our practices, we kept the good things (some schools have forgotten this) but all the while the learner was the key.

Current Situation

I am wanting to describe a couple of scenarios I have witnessed, these two are very common, and are not wrong, but hopefully if they look familiar then this paper may help you get the plan back on track.

Scenario 1

I came across many many schools who have bought the mLearning technology and are piloting it. They have given the technology to the new or keen teachers and left the others alone. After this pilot kicks off in the schools, the leadership wants to expand the success or perceived success of these classrooms and are facing multiple questions from the late adopters; asking why? asking whats new? and they are showing similar resistance to those who opposed the laptop programmes of the early 2000s. Schools and principals have reacted by sending their mLearning people out to look at other schools and see how they are working with iPads/mLearning devices and are pressing on with their implementation process. However, gear is sitting unused or worse still it is being used to do electronic worksheets or horrible “educational games”.

Scenario 2

Schools have introduced an iPad/BYOD class, they are 1:1 and they have sold this opportunity to parents as a “must have” learning opportunity. We all know when 1:1 BYOD classes are established that the cost to the school is zero in term of dollars towards hardware. In many cases this has been the reason or driver to have BYOD into schools. Apologies for generalizing if this is not you but its a no brainer that you can have a 1:1 class, kids bring their own gear and the cost is zero and your school looks good as a 21st century digital school. After this “successful BYOD trial” schools are now going school wide or level wide with this BYOD 1:1 initiative. Boy that’s going to be an impressive school. One problem, when was “learning” at the centre of your decision? Teachers are using the devices as electronic worksheets or horrible “educational games”.

Scenario 3

I caught a taxi to the airport, the usual discussion about life happened with the friendly driver. He had a bluetooth headset on, was watching his GPS, had his taxi meter running, had his taxi computer communicator on and was talking to the passenger as well as driving. When he dropped me off I asked where he was going next. He said that there were 14 blue bubble cars waiting at the airport and he would get a new fare within 23 minutes. His Toyota Prius was a hybrid and he had calculated the cost of ownership of petrol versus electric and aligned this with the life of the batteries over seven years and the estimated kilometres. This has nothing to do with the classroom, however, it shows you the impact technology has had on the working public and what sorts of things our children can expect in their future employment.

Scenario 1 and 2 are quite different but they both represent important issues with implementation. Two things that are essential are a robust professional learning programme and the other is rock solid belief in why digital/mLearning will make a huge difference for our children.

Current Situation

There are some questions you may need to ask yourself and your planning team.

1. So what are you trying to achieve ?
2. Why are you wanting these mobile devices?
3. Why should you get these iPads?
4. Why do I have a BYOD programme?

Why is a crucial question it should help you assess whether you are wasting your time and money, or help you get back on track. Remember that wherever you are on the implementation of mLearning you can always back track re-align and get on with the implementation.

If you can't answer "why", then thinking that devices are the answer is categorically wrong. So let's address the why question and place this at the centre of all our decisions.

What is your core belief with the use of mobile technology?

You can use these two starters to help you write your core beliefs.

I believe that students

I value

If you can clarify and expand your values and beliefs around mobile technology then you start to answer the "why" question.

A typical answer may be:

Mobile technology is a tool for learning similar to a pencil, crayon, laptop etc. This is not a magic bullet. It requires a top quality well skilled educator.

It is a precursor to 2020 or 2030, the jobs of today and tomorrow. The connectivity of a digital literate citizen. Today's and tomorrow's employers and employees will and currently are immersed in a digital world. The skills required of a student graduating from any school has changed. Schools have to adapt to the digital citizen, acknowledge its importance and build a new skill set that runs in conjunction with traditional learning.

Digital citizenship means surrendering some control of learning environments in schools.

So let's get why down to two sentences

Your leadership should be able to articulate "why", at some point your teachers, students, and parents should also be able to articulate this too.

I believe that today's students need to learn in multiple ways to succeed as tomorrow's digital citizens.

I believe digital citizenship is an integral competency for today's children in preparation for tomorrow's adults.

Make sure your beliefs are aligned with your core job; education.

Research

What we definitely don't have is research that says unequivocally that 1:1 devices or mobile learning devices make a difference to learning; specifically reading, writing or maths results. The fact is that measuring the success of digital device integration and its outcomes for children by using a pre and post test is shaky ground.

Making direct connections with test score outcomes is too narrow. The Manaiakalani project is now gathering meta data across a thousand student blogs. This will help give a clearer picture of the real progress being made.

The NSW Government have published "Use of tablet technology in the classroom" http://www.tale.edu.au/tale/live/teachers/shared/next_practice/iPad_Evaluation_Sydney_Region.pdf which is excellent reading and well worth the time.

What is clear, however is those with quality teaching and learning programmes and those integrating the technology well are giving children every opportunity, some are showing great gains in areas previously not seen before.

One such example with longevity is a young writer from Pt England School in Auckland. The boy began a teacher initiated class blog in 2008 and left the school four years later in 2011. I followed his posts which were at first written in class time and being a year 5 boy, he wrote about the usual rugby league games and a fast running Usain Bolt. Things changed slowly as he began to fancy himself as a sports writer. It was clearly evident he knew he had an audience and he interacted with them in the comment threads. On the 4th of January 2009 when the boy had been blogging for about three terms a significant event took place that showed that things had changed for the writer and significantly for the teacher and school. Auckland Warriors forward Sonny Fai drowned at Bethells beach. The young man, in his school holidays, wrote several blogs over a few days reporting how he felt and what was going on in the media. The boy had crossed the line. He had something to say and said it, in his time - in the school holidays. The school knew they had shifted the goal posts, they had made the technology work outside school hours, this is a huge shift for boys writing. Ask yourself how many students especially boys, write for an audience and a purpose outside of the classroom. When you cross that line you have climbed a mountain.

If you go ahead and see the quality of writing this boy was producing when leaving the school 4 years later you know the connection between the technology and the teaching and learning you realize the difference that was made to this young man. His parents got involved, commenting online and the whole scenario became a huge success. A year later when the Tsunami hit Western Samoa, many students blogged about this in their school holiday time.

Now the school blogs prolifically, and spare time blogging is just a matter of fact.

Across the whole cluster there have been over 42,000 blog posts.

<http://manaiakalani.blogspot.co.nz/2013/01/there-is-nothing-like-good-summer.html>

Research

A link to iPad research summary from various schools across USA. 997 schools.
<https://blogs.edutech.nodak.edu/ndat/files/2012/10/iPad-Research-Summary-copy.pdf>
It makes for interesting reading however much of the research is disconnected.

The research project done by Ruben Puentedura was on 1 to 1 projects. He wrote extensively and I will not try to summarise it. The point I took from the research was ownership. Children have to have ownership of the device so that they can have access and connectivity 24/7 (This doesn't mean you now have a license to have a BYOD 1 to 1 programme and think you are meeting the research). He also wanted to summarise how the technology is being applied and wanted to define what good application would be, hence the invention of the SAMR model.

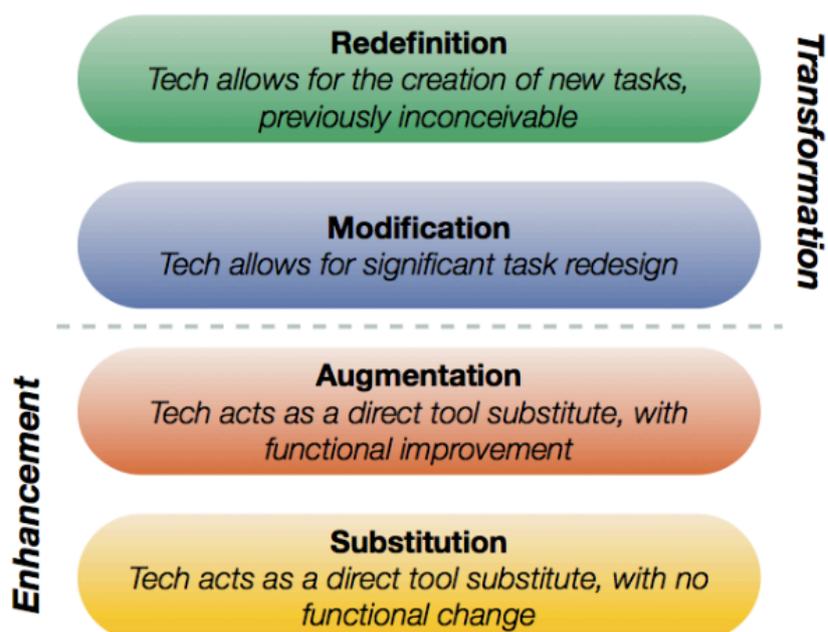
Rubin Puentedura clearly says :

Rich use of technology to explore and create is essential.
Take pieces of data and link, create, share and adapt.

He uses the SAMR model to help teachers understand where they sit on a technological educational rubric. There are many explanations and images across google of the SAMR model. I suggest always going to the source and actually listen to Puentedura.

<http://www.hippasus.com/rrpweblog/>

http://www.youtube.com/watch?feature=player_embedded&v=rMazGEAiZ9c#



Leadership

As capable principals you don't need me as your strategic planner. You don't need me to tell you how to go about a visioning exercise etc. But you should have your best evidence synthesis leadership document front and centre. That should give you the backbone for ensuring change follows a path well worn and grounded in research.

What you will have to hone is the skills a leader needs to lead others in an andragogical sense. You have to know how to lead teachers/adults. Principals must be the leaders of adults; it's the teachers who have to be the leaders of children. Once you figure out why you are making the shift to mobile devices then you must look at how you are going to achieve this. Some time back John Langley made a statement that the MOE had more pilots than Air New Zealand. I think New Zealand schools are piloting iPads at a ridiculous rate and the thing is that they have no flight path, no co-pilot, no land crew. It won't end in a plane crash but a few grand will be flushed down the dunny and no-one will be the wiser. Still, if you have made the start and things haven't really started to fly then it's not too late to get a good solid base to your plan.

When looking to make change I often refer to *From Values and Beliefs about Learning to Principles and Practice* 1996 by Dr Julia Atkin.

The following is an abstract from the paper which is freely available to all principals. It was distributed widely when the revised curriculum was introduced.

Dr Julia Atkin says:

To live being a 'learning community' is not an easy process. There are many forces working against such an approach. The forces I have found to work most strongly against the creation of learning communities result from tendencies to:

- 1. react to outside mandates or pressure for changed practice by accepting practices in an uncritical, unquestioning manner*
- 2. adopt a mentality of 'keeping up with the Joneses and, what Michael Fullan (Fullan, 1991) has termed 'group think'.*
- 3. act out of the patterns of the past rather than as deliberate and conscious designers*
- 4. look for simple solutions to complex problems – to look for 'black or white', 'either - or' solutions.*

Leadership

To counteract these forces I believe we need to make an essential shift in mind set. We need to consciously adopt a different emphasis and approach to development. We need:

- *to move away from ‘knee-jerk’ reactions to change, and the calls for changed practice to focus on defining, and working towards what we value and believe*
- *to make explicit what we stand for and what gives direction to our actions*
- *to institute feedback processes within our school communities to evaluate whether our actions achieve our values and visions.*
Simply stated, we need values and vision driven development in which the question we are regularly asking of ourselves, as individual educators and school communities, is how well are we achieving what we value and believe; how well does our current situation match our vision of what is possible?

So you will need a plan to ensure you have learning at the centre of your decisions. Now the key will be ownership. Does your community and BOT own and are they on board. Have they been given the big picture? Does your staff own and acknowledge the issues we face, are they on board?

Share and discuss your plan with other schools. Don't go to other schools and ask questions like "how do you sync your devices". Ask how they are going about implementation. Ask what steps you are doing now in implementation and what is next and what have you done thus far.

Schools are not going to judge you for asking the meaty questions, in fact the more we share how we are going about things the more we refine and redefine our actions and plans.

I would be happy to talk individually with people about implementation, I'm certain you have a few good ideas I could borrow, however, you are paid the big bucks. As stated above its time to bring Best Evidence Leadership front and centre, or use a bit of Julia Atkin to help guide you. Have a very close look at Puentedura, he is giving you a framework. It's your turn for action.

Tools for Review

I've found "I've done that" or "I already do that" to be the worst two excuses teachers and Principals make for not wanting to further their learning, or just not really wanting to listen.

So how can you self review the plan and actions you are taking?
Are there any simple tools you can use to assist implementation?

- There are many excellent external providers who provide robust review of curriculum implementation in schools. New Zealand has many experts in ICT leadership who are available to help schools review progress. Investment in this area is often money well spent.

- Schools can and should use SWOT analysis.

Stoll & Finks ; moving, cruising, strolling, struggling, sinking. A good way to assess where you are at and help make changes. The structure is particularly good at challenging how your school is progressing. It also helps re-assessing and keeping your progress focussed.

- PMI is a basic way of looking at systems, Apps or classroom teaching.

- De Bono's Thinking Hats seem to find their way on the walls of every junior classroom in the country, but how many adults in your school have put the learner at the centre and actually looked at mLearning from a learner's perspective and used the hats to help.

Principal and BOT brainstorming and school visits. These are invaluable for ownership in a wider, big picture way. Having the decision makers seeing and owning the big picture ensures support is maintained over a number of years.

- Blooms levels of questioning. I feel like teachers and leaders talk the talk but do they actually look at using deeper questioning around pedagogy. The tools are there.

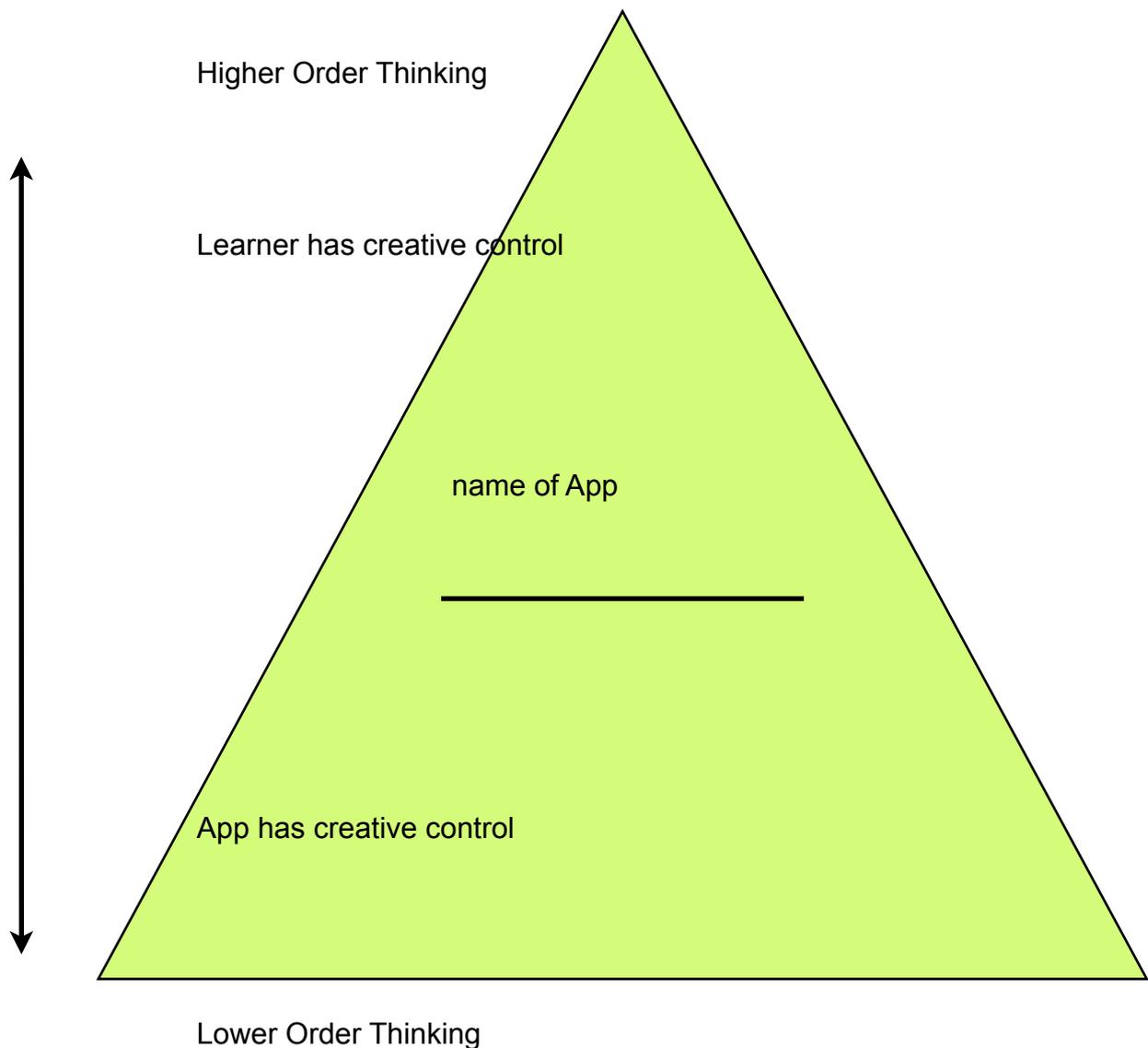
- Solo Taxonomy is a great way of expanding ideas. These are great tools to self assess. They aren't just tools for kids. They can really ignite big ideas.

- External challenge, schools need to visit schools and ask the deeper questions, avoid the how to and get into the why. School visits help with defining what you are doing and help with answering lots of the "how" questions. They can often offer up more questions than answers.

- Internal challenge, I feel the biggest weakness of schools can be their grooves of complacency. That cloud of smug: "we are doing well". Schools need a robust internal critique. Being open to constructive criticism and opening up avenues for new ideas is essential.

Tools for Review

This is where sharing with others the simple things you are trying and doing take over. Years ago Derek Wenmoth shared a model for assessing educational software. It couldn't be more relevant today with the horrible invasion of educational Apps. There was a reason that educational software companies went broke in the 90s and the more we critique the rubbish that schools and teachers have on iPads; the better. This is a really good way of generating discussion around the suitability of apps. Interesting that we have found that apps can be lower order thinking or higher order thinking. The creative control varies on the way teachers use them. They become situational apps. The discussion with teachers needs to be had though. When deciding that an app is suitable this doesn't give it an immediate green light. Staff have to constantly challenge and discuss effective pedagogy alongside the use of technology.



Tools for Review

The ACOT (Apple Classrooms of Tomorrow) was a longitudinal study of technology in education starting in 1985. It has seen many iterations across the years and there are several reports on effectiveness and implementation. Sometimes the simple things are taken from these deep studies and help us understand our place. The chart was adapted from the ACOT study to help teachers and schools place themselves or staff somewhere on a rubric.

Since ACOT we have seen many developments in the implementation of classroom practice. Over the years inquiry learning has been linked with ICT integration. Several years ago Mike Anderson and Guy Hammond (then, teachers at Elmwood School) produced a rubric for teachers to see what part of the inquiry process teachers were in. A big picture view of Inquiry learning.

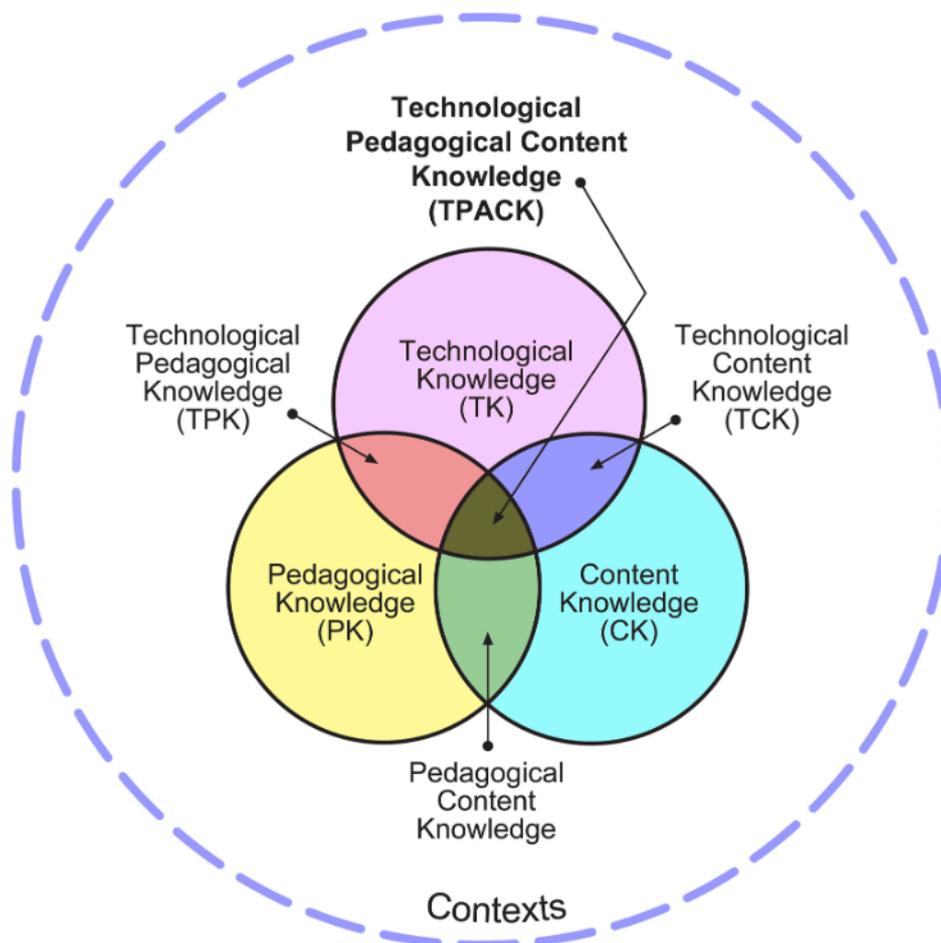
Stages	Behaviour	Characteristics
Entry	Appear not to use technology much. Computer sits with the dust cover on, or not turned on for most of the time. fears they will break the equipment.	Lots of questions about the physical setup and operation of the equipment. Often frustrated and have a tendency to avoid it.
Adoption	Begin to use a few applications to automate existing tasks. Technology has no significant impact on day to day teaching.	Computer is operational; many of the setup questions have been answered but the connection to teaching and learning is just developing.
Adaption	Methods of presenting information begin to incorporate technology ; Power Point. Student work on computers is accepted and encouraged.	Technology is becoming a regular part of "traditional" classroom projects such as research and essays.
Appropriation	Learning environment is changing. New methods of preparing and presenting information are used. Classroom is physically arranged differently from traditional. Change in the type of student work done. More project based learning.	Active learning projects are more of a day to day reality; students are doing more project work requiring technology tools such as: multimedia activities, integrated media projects.
Innovation	New ways of using the technology are developed and enhance the quality of learning activities. students are demonstrating initiative in directing their own learning. A variety of strategies are used to assess learning	Confidence to experiment with alternative ways to teach and use technology is exhibited by the teacher. The teachers role is more that of a facilitator
Adapted from Apple Classroom of Tomorrow ACOT Project Research 1985-2005		

Using ACOT and the Inquiry traits Ash Maindonald (Christchurch principal @macash) and I developed a rubric that *may* be useful to teachers, leaders and educationalists.

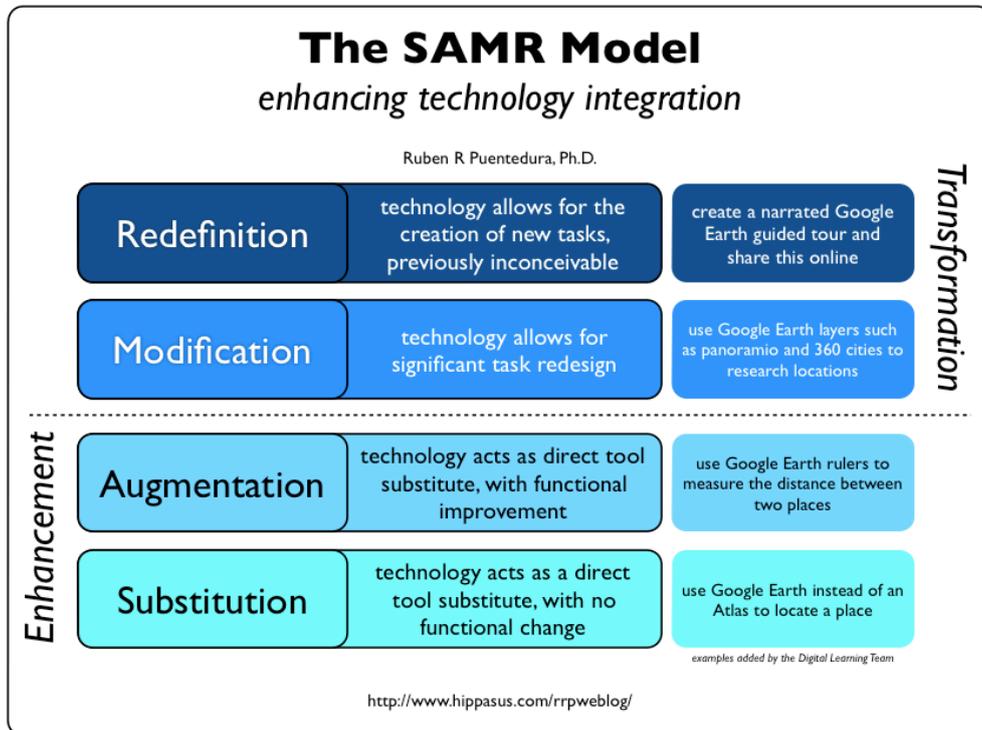
Stages	Behaviour	Characteristics
Pre Entry	<p>Avoids use of mLearning technology. Devices sit turned off, or stored 'safely'. Fears equipment may be damaged, broken or used inappropriately. Occasionally turns device on - mainly at staff training times. Has good intentions. Would like someone else to swap classes and use the technology with their children.</p>	<p>Avoids questions as this will show lack of knowledge. Lacking confidence. It's mainly Black Hat. Blooms - Remembering, they exist and may have a purpose. Solo - Pre Structural</p>
Entry	<p>Looks to use the mLearning technology once a week as a reward for 'good work and/or good choices'. Allows children to experiment - have free time on the device and play games on it. Yet to see much point in mLearning technology as a teaching and learning tool but does believe it has potential. Use of mLearning tools has no significant impact on day to day teaching and learning.</p>	<p>Lots of questions about the physical setup and operation of equipment. Skinny questioning. Often frustrated - frustration leads to 'writing it off as a useful tool'. It's mainly Red Hat. Blooms - Understanding Knowledge of how they work and how they could work. Solo - Uni Structural</p>
Adoption	<p>Uses mLearning tools for things such as email, calendar and even some games. Provides mLearning tools and opportunities to children reasonably regularly - but tends to let children 'discover' for themselves as still learning how it can be used effectively. mLearning tools are an add-on to the programme rather than integrated. Students and Teachers learning to : implement appropriate application of mLearning technologies to enhance and support learning. Co-regulated</p>	<p>Devices are operational, many of the setup questions have been answered and the connection to teaching and learning is developing. Safety is sought through using simple apps. Traditional work in another form in the main. Mainly Skinny questions. Pre constructed questions Largely directed thinking It's mainly White/Yellow hat Blooms - Applying -Application of the tool as a learning tool. Solo - Uni Structural</p>
Adaption	<p>Using mLearning for finding and sharing information. Beginning to incorporate mLearning into the student learning process. Student work on mLearning devices accepted and encouraged. Beginning to actively look at a variety of ways mLearning can be used to support the teaching and learning process. Students and Teachers are implementing appropriate application of mLearning technologies to expand and support learning. Self Regulated</p>	<p>Technology is becoming a regular part of "traditional" classroom learning. Seen as a tool to motivate, encourage and upskill reluctant learners. It's mainly Yellow/Green hat (starting to combine other hats) Blooms - Analysis - looking at how the tool can be best used. Fat questioning - Largely independent thinking, scaffolding of ideas Solo - Multi Structural</p>
Appropriation	<p>Learning environment is changing. mLearning tools are used in a variety of ways - multi-media potential of the tools beginning to be investigated and introduced. m-Learning technologies used as a recording tool in a variety of ways, situations and purposes. Used as a tool for finding, using, refining, defining information. Changes in the teaching and learning style of classroom evolving. Inquiry learning approach using mLearning tools genuinely emerging. The appropriate application of mLearning becomes inherent.</p>	<p>Active learning is more of a day to day reality. Students are encouraged to use m-Learning to challenge their thinking and to ignite thinking. Using mLearning in multiple ways to build learning capacity. Combination of all six hats. Complex questioning, co-constructed questions. Self and peer assessment Blooms - Analyse Evaluate - taking what's known to develop new ways of applying, adapting and adopting mLearning technologies in the teaching and learning process. Solo - Beginning relational and extended abstract</p>
Innovation	<p>New ways of using mobile technology are developed to enhance the quality of learning. mLearning tools are naturally and seamlessly integrated into the classroom teaching and learning process. mLearning devices are seen as "my imagination in my pocket" allowing real-time, anytime, anywhere research and reflection. Students co-drive the integration of mLearning technology into the teaching and learning process. Students are demonstrating initiative in directing their own learning, using a variety of strategies to assess their learning. Students are too interested in their learning to be distracted by unacceptable-use alternatives. Inherent, Appropriate, Application of mLearning technologies, supporting others to apply the same standards.</p>	<p>Confidence to experiment with alternative ways to use m-Learning technology is exhibited by the teacher. The teacher's role shifts to full-time facilitator. Teacher understands the need to teach discernment now as children are well able to use the tools to suit their purposes. Full array of six thinking hats, children and teachers. Blooms - Creation - developing new ideas and learning strategies and ways of applying and combining mLearning technologies in the teaching and learning process. Solo - Relational and extended abstract</p> <p>Ash Mairdonald @macash - Luke Sumich @sumich - July 2011</p>

Tools for Review

The TPCK model (Punya Mishra) known as the T-PACK model is a very simple way of understanding exactly what it is you need to do to assist with implementation. It makes teachers realise that integration requires changes to content knowledge, adaption of technology and pedagogy. All three need to be considered to make change. www.tpck.org It is a very useful tool to assess current progress and shifts of pedagogy, which are essential.



Tools for Review



Schools can add their own four columns on the edge of the SAMR model to assess and review implementation or Apps or systems

When reviewing, the internet can be a tremendous resource.

There are many blogs about iPad trial implementation. Most are written by unknown individuals across the globe. An educator I came across Don Orth from Los Gatos Ca writes about all things iPad in schools. In a recent post he wrote about the five reasons why your iPad programme is failing.

His review is an excellent summary for teachers and leaders.

Focusing on content apps

Lack of Teacher Preparation in Classroom Management of iPads

Treating the iPad as a computer and expecting it to serve as a laptop.

Treating iPads like multi-user devices

Failure to communicate a compelling answer to “Why iPads?”

Tools for Review

Some schools have used the SAMR model to assess whether they should go school owned, BYOD, netbook and other initiatives. The key they were looking at was Why and How. You could adapt the SAMR model for many discussions					
Transformation	Redesign				
	Modification				
Enhancement	Augmentation				
	Substitution				
		BYOD (Multiple devices optional)	1 to 1 – Set device iPad OR Laptop	School owned multiple portable devices	Other: (describe)
<p>The question is not, "how can I use a device in my current curriculum?" 'What could I do with my curriculum because of the device?', -21st Century Learners</p>					



schools could replace what goes in these boxes with systems, apps, infrastructure, outcomes

Physical Considerations

It would be remiss of me to avoid some technical questions around set up and delivery for schools.

Each school is geographically and physically different. However connectivity is a no brainer so schools will need robust wireless. The concerns I have are around schools upgrading through SNUP (Ministry of education financial support to upgrade facilities). Unfortunately the tech specs of SNUP are already surpassed. It is so obvious when you consider that in every SNUP upgrade, each classroom has multiple ethernet ports for kids to plug into. I know I may have missed a meeting or two but I'm sure I didn't miss the fact that mobile wireless devices don't use ethernet. Laptops, iPads, netbooks all use wireless access points and plugging them into ethernet is not conducive to modern learning environments. So it should be an informed choice before you decide to spend your schools hard earned on wires and power plugs. I know the MOE subsidise the projects and it may cost your school between 20 and 40k of 5YA money so you don't really pay. I've heard that excuse. The reality is you should use that 40k and get a world class wireless solution.

So what should you have:

- Televisions (LED) or HDMI projectors should be in each room and they should have a wireless interface with the devices kids have.
- Robust Wireless with an ultrafast (fibre) unlimited broadband backbone.
- A good lock up area for devices in every class so the technology is safe and teachers are not left vulnerable.
- A method of delivering software or upgrades to school owned devices.
- Cloud back up and syncing if possible.
- Cameras and audio visual tools for creating.
- Schools need to consider modern learning environments (MLE) and not traditional classrooms when considering mLearning environments.

I have seen many ways to sync iPads and seen individual apple IDs as well as one Apple ID for whole schools. I have heard some nightmare scenarios because schools haven't followed due process.

Try this story: A whole school used one apple ID and had free apps only and synced using a master image on a computer. One of the children used dad's credit card to buy an app and the apple ID somehow ended up all the devices. Children bought hundreds of apps on dad's credit card. After a few thousand dollars were burnt the problem was discovered.

Schools will need to be careful and respectful of copyright. They should join the Apple Volume Purchasing Programme to enable paid apps to be distributed legally.

Physical setup, syncing and pushing images should be part of a wider plan, however, they should not be at the centre of a mobile learning revolution. Always keep learning at the centre.

Acknowledgements / References

The very prestigious ASB/APPA Travelling Fellowship Awards are available to APPA / Tai Tokerau members annually. Two awards are usually allocated each year - one for six months and another for three months, along with financial assistance and paid leave. (The Trust may also award only one fellowship or decline to make an award if it chooses). The awards are taken up in the following year. Upon completing their fellowship, recipients make a presentation to the APPA and submit a written report relating to the award.

Membership of the ASB/APPA Travelling Fellowship Trust includes the president and immediate past president, along with four APPA-elected members who are nominated and elected at each APPA annual general meeting. The Fellowship Trust also involves representatives from ASB, ASTA and the Ministry of Education, along with an honorary secretary.

I would like to acknowledge the APPA and ASB for this opportunity which I encourage all colleagues to apply for this once in a lifetime opportunity.

I must acknowledge the leadership and professionalism of Blair Giles and Barbara Dysart who were so successful in running Summerland School while I disappeared for two terms. They didn't just fill my boots they led, made tough calls, and always maintained professionalism. Two leaders for whom I have the highest regard.

The board of trustees at Summerland Primary are a forward thinking, practical and supportive group who I acknowledge as a fantastic example of governance and a leading example of the intent of Tomorrows Schools in action.

Acknowledgements / References

School Leadership and Student Outcomes: Best Evidence Synthesis
Identifying What Works and Why

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Viviane Robinson, Margie Hohepa, Claire Lloyd [The University of Auckland]

New Zealand Curriculum

<http://nzcurriculum.tki.org.nz/Curriculum-documents/The-New-Zealand-Curriculum>

Manaiakalani Schools - 1000 Blogs

<http://www.ptengland.school.nz/index.php?mid=6>

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Mike Anderson

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Ash Maindonald

<https://twitter.com/macash>

Stoll & Fink

[Louise Stoll Department of Education, University of Bath](#)

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