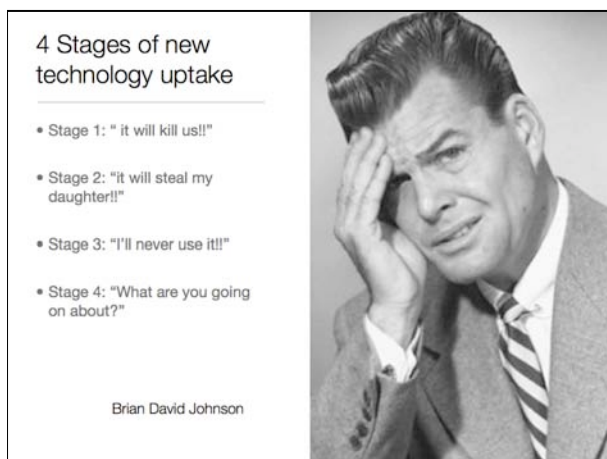# Welcome to a world of possibilities: Exploring digital technology in early childhood education.

Author: Jo Colbert

I have been living in a world with computers all of my life, for many of these years I did not really know computers existed and if I had decided to buy an early model it would have been cost prohibitive.

I remember my first introduction to a computer, my son's friend's mother had one in her work-from-home office in 1991 and this required a floppy disk and microfilm and it seemed such a hassle to navigate and was so visually unappealing that I dismissed computers as having any real relevance in my life.

4 Stages of new technology uptake

- Stage 1: " it will kill us!!"
- Stage 2: "it will steal my daughter!!"
- Stage 3: "I'll never use it!!"
- Stage 4: "What are you going on about?"

Brian David Johnson

We were relatively late comers with computer technology in our home and our first computer was a Macintosh LC 575, bought in 1994. I had great difficulty getting my head around how to use it. I spent time on 'mouse practice', lifting treasures from the bottom of the ocean, bringing them to the surface and putting them in my boat. My children laughed as they watched me trying to negotiate this mouse practice as the cursor moved rapidly around the screen, I wondered how I would ever get this under control. With determination and perseverance of course I did master the mouse as well as the computer and now consider myself to be computer literate.

What really helped in this was my motivation to learn when we started writing Learning Stories and it was through this that I began to see the potential for digital technology in my own life and for the children I was working with.

We live in exponential times, from one week to the next there is a new device released onto the market and it is hard keeping up with this rapid change and working out what is relevant for our early childhood settings. I do have a sense of sitting on top of the mountain and what I know about digital technology is the top of the mountain and there is so much (the bulk of the mountain) that I do not know. It is like being in a race and always playing catch up as there is so much new technology coming onto the market, and therefore there is always something new to learn. This is when my dispositions of curiosity and persistence really come to the fore as I experiment and try out new things.

In his article in the Huffington Post, Brian David Johnson has identified four stages of technology uptake
1. It will kill us all - we are wary of the safety of the new technology - I certainly remember this when microwaves first became common place.
2. It will steal my daughter - there is a fear that technology will take over children's lives (or adults for that matter)
3. I will never use it - I see this in early childhood settings where digital technology is available but teachers are resistant to using it with children or for personal use.
4. What was all the fuss about? - Finally you give it a go and you find that it was not so difficult after all. In fact you find yourself enjoying using said digital device so much so that eventually it becomes a part of everyday practice.

Stuart Hale at Ulearn 2012 reminded the audience that if you do not use digital technology personally, you will never use it professionally. You have to give it a go, don't wait until you think you are good at using it, just learn as you go and look to children to support your learning.

Steve Jobs talked about the efficiency of locomotion for various species on the planet and humans do not do very well on a scale rated with other species. However, give a human a bicycle and we can beat any animal on the planet. He said, "That's what a computer is to me: the computer is the most remarkable tool that we've ever come up with. It's the equivalent of a bicycle for our minds" (Jobs, 2006). We have to remember that any digital device is just a tool, a tool that can support children's learning and it is up to us as teachers to

notice, recognise and respond to this learning.

When Learning Stories are written, the focus should be on the child as a learner and how this learning episode reflects what you know about the child as a learner and showing the continuity of learning overtime. I think back to the research I did as an efellow in 2005. My guiding question was, "Can ICT enhance the complexities, connections and continuity of young children's storytelling?" and I find myself thinking about this in a broader sense now, thinking how digital technologies support children's learning to be more complex, connected and to show continuity of this learning over time. The Learning Stories we write to document children's engagement in digital technologies should reflect dispositions and children as powerful and wise learners.

Mark Prensky in his article 'From digital natives to digital wisdom' says the terms digital native and digital immigrant are now less relevant. He believes,

> digital technology, can be used to make us not just smarter, but truly wiser. Digital wisdom is a two-fold concept, referring both to wisdom arising from the use of technology to access cognitive power beyond our usual capacity and to wisdom in the use of technology to enhance our innate capabilities. (2012, p. 212)

As teachers we need to consider how we are supporting children's digital wisdom, and one of the ways to do this is to keep teaching and learning in the front frame when we consider the ways to integrate digital technology into our settings. I see teachers now using digital technology wisely to support their practice: online programmes are used to collaborate, critique and communicate within teams, private blogs are used to upload and critique Learning Stories, wikis are used for appraisal purposes and Google Docs are used to update policies and procedures. Using the online environment in this way shows teachers are finding ways to use the internet as a tool to support their own teaching and learning.
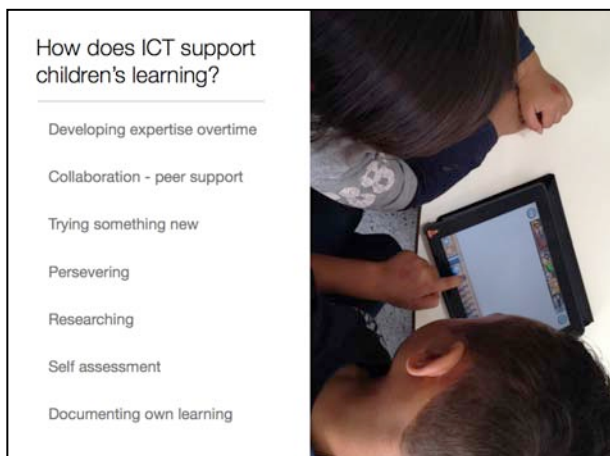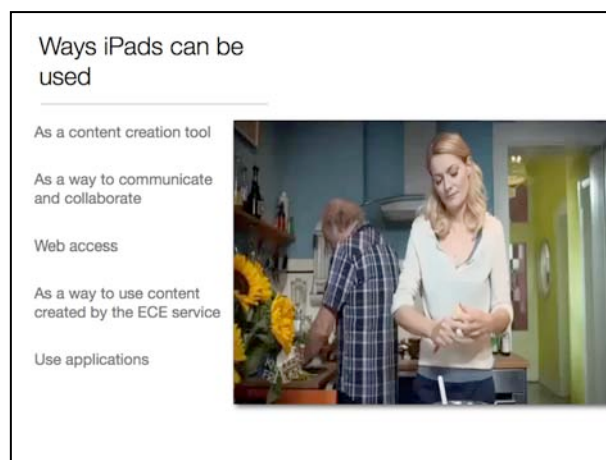
Recently, Microsoft unveiled 'Surface' along with a new operating system, Windows RT, which enables tablet users to use programmes such as Word on a tablet. With the availability of other touch screen devices such as iPads, Samsung Galaxy, Google Nexus etc. there is a move towards a gesture based era of computing. With this in mind, I certainly see the way forward when considering a new IT purchase - a tablet is the way to go. The good news with tablets is that this type of hardware is cheaper than the traditional laptop or desk top models.

I want to elaborate on iPads as these are what I am most familiar with and I also see a number of iPads in centres that I visit and have not seen other tablets within settings. I have seen iPads used in a variety of ways within settings, some are used in ways that support teaching and learning whilst in others iPads have been left very much up to the children to navigate and engage with. Again, Stuart Hale, at Ulearn 2012 identified five ways iPads can be used with children:

1. As a content creation tool
2. As a way to communicate and collaborate
3. Web access
4. As a way to use content created by the school or ECE setting
5. Using applications

With over 275,000 Apps currently dedicated to iPads the dilemma has to be where to begin, which apps to use on your newly bought iPad? Questions you might want to ask yourself are: What is the culture of your place? What might you want to use your iPad for? If you have a culture of storytelling, look for apps that support this - book creator is one example, as is Puppet Pals (buy the full version of this as it has more functionality than the free version).

How does ICT support children's learning?

Developing expertise overtime

Collaboration - peer support

Trying something new

Persevering

Researching

Self assessment

Documenting own learning

Ways iPads can be used

As a content creation tool

As a way to communicate and collaborate

Web access

As a way to use content created by the ECE service

Use applications

Welcome to a world of possibilities: Exploring digital technology in early childhood education. Jo Colbert, Educational Leadership Project (Ltd), www.elp.co.nz

You might have a culture of gaming in your centre, so look for apps that support this culture. In my personal life I am a bit of a gamer, having said this though, I do not find myself particularly drawn to gaming with children within an early childhood context. There has been research and writing about the benefits of gaming, Mark Prensky, and James Gee talk about the learning happening for children when they game. Carol Marks in her article, 'Do teacher attitudes towards gaming influence learning?' talks about the importance of games that are designed to support 'practice'. Carol says,

> Gaming allows children to enter at some level where they can achieve enough initial success to keep practicing and getting better. There is a low cost for failure and a high reward for success. Children can save the game and re-enter where they failed.

If you are selecting an app for gaming on the iPad, then learning and teaching must remain in the front frame.
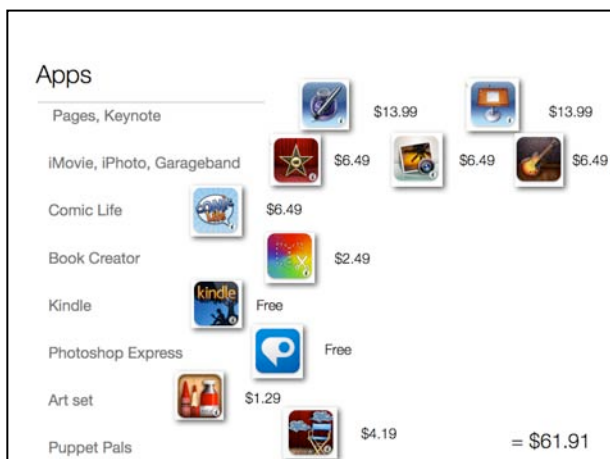
A good place to start is with the apps that are already on your iPad, in particular, Safari, Photobooth, Mail, and use the camera. Set yourself a budget and buy a few key apps, as well as some of the free ones, Skype for networking, Garageband, iPhoto, iMovie, Comic Life, Art Set, Puppet Pals and the iWorks apps Pages & Keynote. This would be all I would start with on the iPad and the total cost is around NZ$60.00.

I believe the practice of 'less is more' is applicable when it comes to children using an iPad. Often what I see when children are using an iPad within an early childhood context where there are many, many apps for them to use is that instead of real deep learning happening for them they tend to just 'switch' between apps.

Margaret Carr (2008, p.4) in her article 'Zooming in and zooming out' says,

> One's identity as a competent learner and knower is to some extent built around the notion of

making progress, getting better at something, becoming more expert, and knowing more.

Any programme or app can offer children the opportunity to support their image as a competent learner if they are able to revisit the same app/programme on multiple occasions. On the other hand if there are a large variety of apps to choose from the opportunity for children to become more expert could be decreased.

If we keep Te Whāriki in mind we will realise that it is not about technology, it is about relationships. It is about spending time with children, engaging with them to support their interests and passions and to find ways for digital technology to be a part of children's lives.

References:

Carr, M. (2008). Zooming in and zooming out: challenges and choices in discussions about making progress. In *Measuring Progress*. Conference Proceedings (pp. 3-18). Wellington: NZCER

Colbert, J. New Forms of an old art - children's storytelling and ICT. Early Childhood Folio 10:2006

Jobs, S. (2006) Steve Jobs, "Computers are like a bicycle for our minds." - Michael Lawrence Films Retrieved from: http://www.youtube.com/watch?v=ob_GX50Za6c, accessed 1 November 2012.

Johnson, B.D. New technologies enter our lives and society in four stages. Retrieved from: http://www.huffingtonpost.com/2012/01/17/four-stages-new-technology-slate_n_1210250.html, accessed 1 November 2012.

Marks, C. (2012). Do you know me? Do teacher attitudes towards gaming influence learning? Retrieved from: http://elp.co.nz/EducationalLeadershipProject_Resources_Articles_ELP.php, accessed 1 November 2012.

Welcome to a world of possibilities: Exploring digital technology in early childhood education. Jo Colbert, Educational Leadership Project (Ltd), www.elp.co.nz

Ministry of Education (1996). *Te Whāriki: Early childhood curriculum.* Wellington: Learning Media.

Prensky, M. (2012) From digital natives to digital wisdom. *Hopeful Essays for 21st Century Learning.*

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