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Teaching Digital Nutrition: Promoting Healthy Online and Technology Habits to Young People Using Digital Citizenship Education

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My interest in the impacts of technology and the potential for Internet-enabled devices and activities to be ‘addictive’ began when I completed a research project as part of the NSW Department of Education’s School Counsellor Retraining program in 2009.

The project titled ‘[Young Males, the Internet and Online Games: Exploring the Impacts](https://detwww.det.nsw.edu.au/media/downloads/directoratesaz/sepebureau/schoolresearch/research/findings_reports/student-welfare/2008210_brewer_online_gaming.pdf)’ was the first of its kind in NSW to consider the role that increasing access to digital technology and the expectation for its use in learning as part of the Digital Education Revolution had on young people’s wellbeing and academic performance.

Since that time, the issues created by the uptake of digital technology and the moral panic around aspects of technology use/overuse/abuse and young people is now a regular feature of media reports and commentary.

My continuing work in this field, working with students, participating in dialogue on the trends and engaging with the media over the last six years, I have developed an expertise in issues relating to the ‘psychology of technology’ and its implications for education.

[Digital nutrition](http://www.digitalnutrition.com.au) is a term I coined around 2013 in response to the growing narrative about young people’s device use and analogies to drugs of addiction, pejorative conceptualisation of ‘generation screenager’ and the rise of the ‘digital detox’ (which presupposed technology is toxic when used in excess or compulsively).

Digital nutrition is way to conceptualise the digital health and wellbeing domain, which is one of several components of digital citizenship. It uses the analogy of food and healthy eating to propose we consider our relationship to technology in a similar way, by considering the impact of our ‘digital diet’ and consumption of information on our overall social, emotional and cognitive wellbeing.

While the digital education revolution has ended, the true transformative power of digital technology and Internet-enabled devices is only starting to be realised from the perspectives of pedagogy and engagement in health and wellbeing. Digital nutrition is an attempt to explore and maximise these opportunities, while proactively managing the risks and threats.

*A note on terminology*

A variety of interchangeable terms have been used to describe what is, in effect, the use of a digital technology device, characterised generally by a touch screen and the ability to access the Internet.

These terms include: computers, desktops, laptops, tablets, smartphones, devices, digital devices, technology, digital technology, iPads, iPhones and Information and Computer Technology (ICT).

Focus of My Study

Given the ubiquitous nature of technology for both leisure and learning, the scope of my study was wide and included a range of organisations, projects and individuals whose work is relevant to the wider educational technology (also known online as #EdTech) and digital citizenship (#DigCit).

Internet Addiction (IA) and Problematic Internet Use (PIU) are synonymous. Both seek to characterise the apparent issues regulating compulsions when engaging in habitual use of digital devices. Neither are listed in the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition, (DSM-5) as disorders, despite two decades of research. Nonetheless, studies indicate that for a relatively small number of people their use of computers, and more specifically particular online activities, will have negative impacts on interpersonal relationships, academic/work performance and physical wellbeing.

This project originally sought to focus on the psychological and educational benefits of teaching students explicit skills to mediate and monitor their screen-based media use (SBMU) to prevent issues that studies have shown to be associated with excessive and dysfunctional use (Walter and Tam, 2013, and Starcevic, 2013). It sought essentially to allow me to develop the concept of digital nutrition more fully.

My study tour aimed to develop a deeper understanding of the dynamics of SBMU and aspects of digital cultures that put young people at risk of PIU, and to explore the current resources that exist in this space.

As a result of the study tour I have now widened my area of research to encompass how systematic, explicit teaching of digital nutrition can develop student resilience and wellbeing by providing principles to balance their use of technology with real life activities and promote general concepts of wellbeing, connectedness and inclusion.

Digital nutrition does not delve into issues of cyber-safety or cyber-bullying prevention, nor does it seek to provide online mental health interventions. A wealth of resources specific to these topics already exist.

Significant Learning Activities

[*Camp Grounded,*](http://campgrounded.org/) *a Digital Detox Summer Camp for Adults*

Camp Grounded was one of my first stops on the tour and provided me with an opportunity to ‘practice what I preach’ with regard to reduced and more mindful interaction with technology. This outdoor adventure camp draws on the nostalgia of many Americans’ experiences as young people of going to summer camp. It aims to develop conscious awareness of our hyper-connected lives by combininging a four-day digital detox with an opportunity to connect with nature in the redwood forests three hours north of San Francisco. This is one of several organisations that provide experiences to ‘return to analogue’; tapping the nostalgia we have for our pre-Internet lives.

Camp Grounded featured a range of playshops, craft, art, wellbeing and physical activities, as well as a very powerful silent dinner in which we were invited to remain in silence for several hours while mindfully reflecting on our fears, creating new dreams and sharing a meal without speaking.

*Training in Cognitive Behavioural Therapy for Children and Adolescents at the* [*Beck Institute*](http://www.beckinstitute.org/advanced-cbt-for-children-and-adolescents/)

Dr Aaron Beck is the grandfather of Cognitive Behavioural Therapy (CBT), one of the world’s most effective forms of psychological therapy. The opportunity to attend training in

Philadelphia, which included a 90-minute audience and workshop with 94-year-old Dr Beck himself, was a highlight of the tour. His model of CBT has now been adapted to includes aspects of mindfulness and other techniques that can be integrated into the core framework.

Principles of CBT can be applied to treating people who have addictive and compulsive behaviours as well as anxiety, depression and a range of common psychopathologies. The method can be applied to not only prevent PIU and create strategies (such as catching, checking and changing thoughts) to bringing awareness to our use/overuse of technology and the cognitions that create negative automatic thoughts and lead to mental health problems.

*The E3 Games Expo – Los Angeles*

I was very lucky to be invited to attend the E3 Games Expo in Los Angeles by the Educational Technology panel through Greg Toppo, education editor at *USA Today* and author of *The Game Believes in You*. I met Greg through connections on Twitter just days before meeting in Washington, DC, and he was a great supporter of my work and ideas.

Tickets to this enormous, highly anticipated showcase of video games are generally $US1000. The games industry and media event, where the newest technology and releases from all the major gaming entertainment companies launch new products with much fanfare, was opened to the public for the first time this year with a very limited number of tickets. This industry was valued at over $US15 billion in 2015.

This year, the big news was surrounding virtual reality (VR) products such as *Occulus Rift* and *Holo Lens* and the way that VR is shaping personal gaming. There are a range of ways VR will be integrated into teaching, learning and using games for health. Many of the large-title, huge-budget games in this commercial industry are the source of concern for parenting and media education groups; the use of developmentally inappropriate violent games is the source of much research into their effects on aggression.

Independent game design companies were also represented at E3, with IndieCade (an independent game design co-operative) showcasing a range of serious games in their modest section. Game designer Robin Hunicke was very positive about my concept of digital nutrition, discussing the ways that her designs and philosophy on games can link into the superfoods idea.

*Selected Meetings with Individuals and Organisations*

* + **Brisa Ayub at** [**Common Sense Media**](https://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CB4QFjAA&url=https%3A%2F%2Fwww.commonsensemedia.org%2F&ei=JXQ3VdSHJsXRmAWDoYBQ&usg=AFQjCNG9fSpu1cgNOrNALrmTbUEC9r9ZPQ&sig2=fGXCjWK2zXxeY9yLWJrkQA&bvm=bv.91071109,d.dGY)**, San Francisco**  
    Common Sense Media is a globally recognised resource for parents and educators that advocates for safe, healthy applications of technology. They are the leaders in that space, and my meeting with their head of education content helped clarify issues about the pace of change and gap between both parents and educators and children within the skills of educators.
  + **Dr Erin Mason, School Counsellor and Creator of** [**SCOPE4SC**](http://scope4scs.org/)  
    Erin trains school counsellors and has an interest in using technology in counselling. School counsellors have a different role n the US, having more of a focus on career development and guidance in addition to counselling skills and child protection etc. We both felt that many of our colleagues were slipping behind in using technology, not only as a productivity tool in administration, but also in using apps and games in their clinical practice, and at least a theoretical knowledge of aspects of youth culture (selfies, sexting, social media dependency etc).
  + **Dr Devorah Heitner, Founder and Director of** [**Raising Digital Natives**](http://raisingdigitalnatives.com/)  
    Devorah runs excellent digital citizenship programs in Chicago. Her TEDx talk touched on many DN fundamentals, namely empowering young people with technology, being curious about their online/digital worlds and collaborating with young people about setting limits and guidelines for their technology use. Her programs are rolling out in schools.  
    She had a wealth of understanding of the nuances of technology use and a balanced approach to communicating benefits, not just moral panic around risks (which is the feature of many headlines relating to kids and technology).
  + **Denise DeRosa, Program Manager, Good Digital Parenting,** [**Family Online Safety Institute**](http://www.fosi.org)  
    [Family Online Safety Institute](http://www.fosi.org), like, are advocates for empowered, informed choices and information about parenting in the digital age. Based in Washington DC, they have a large lobby base and links with the major social media and technology companies.   
    Conversation centred around the lack of clear direction and understanding of the current research into the impacts of technology on developing brains and aspects of cognitive development. Reading the research can be very difficult as the age of the games and the activities that young people engage in are so rich and diverse, and the underlying social, cultural and economic factors and vulnerabilities are impossible to control for. The role of the Institute and Common Sense Media in interpreting research and disseminating key messages is vital.
  + [**Play2PREVENT Team**](http://www.play2prevent.org/) **at Yale**  
    Play2PREVENT develops games for health, and engages with young people to address public health issues. Their work is clinically developed and tested to demonstrate outcomes, and they have a team of interns and researchers who design, develop, test and analyse results. I visited their development lab to discuss the issues related to apps for health. One such issue is that so many are available (more than   
    1.6 million with about 10 per cent called ‘educational’), yet there is no recognised way to review the credentials of the designers or developers or the true efficacy of the apps (unless they are backed by clinical trials rather than popularity measures).
  + [**David Polger,**](http://www.davidpolgar.com/) **Digital Ethicist and Digital Lifestyle Expert**  
    David is another self-starter who has become a leading voice in the digital citizenship. He creates excellent resources such as the mental food plate and founded the DigCit Summit, which brings together leading voices in that space. Our conversation lasted more than hours and spanned issues of intellectual property, finding unison amongst the diverse voices and developing networks to amplify and deliver key messages.
  + [**Dr Michael Rich, the Mediatrician**](http://cmch.tv/parents/askthemediatrician/)**, Paediatrician at Boston Children’s Hospital**  
    Dr Rich has a wealth of knowledge on media and psychopathologies; his ‘Ask the Mediatrician’ column and website is a globally recognised resource and for his experience at the ‘pointy end’ of problems relating to the intersection of technology and psychiatry. His account of the significant issues he encounters helps frame the need for preventive and proactive interventions to address issues of addiction to technology.
  + [**Janell Burley Hofman**](http://www.janellburleyhofmann.com/)**n, Author of iRules**  
    Janell came to fame as ‘Greg’s Mom’ in 2013 when her contract with her son Greg and his use of the iPhone he received for Christmas went viral and became the iRules book. A mother of five, Janell is another of the balanced and realistic minds in the space of understanding the digital cultures that kids create and enjoy. We agreed that ‘tech-shaming’ parents for the way they allow their children to access digital devices is not a useful way to engage parents with adaptive strategies to improve the efficacy of their parenting skills.
  + **Dr Michelle Blanchard at** [**Young and Well CRC**](https://www.youngandwellcrc.org.au/)**, Melbourne**  
    The Young and Well Cooperative Research Centre is a key organisation, both in Australia and internationally, which champions the role technology has in young people’s mental health and wellbeing. I refer to their work regularly, and it has helped inform my ideas on many aspects of both my role as a school counsellor and in thinking specifically about digital nutrition. Our meeting centred around their projects and the intersection with the development of the digital nutrition concept.
  + **Steve Dupon at** [**The Institute of Games**](http://www.instituteofgames.com/)**, Melbourne**  
    Steve is working on programs that address PIU and the need to develop coding and programming skills simultaneously. It was really affirming to hear his ideas and perspective, and I feel that my direction and perspectives are reflected in his experiences with young people in Melbourne. The Institute of Games looks to be a clear member of the digital nutrition ‘family’.

Significant Themes

*‘Screen-time’ is an outdated concept: consider the content and context of online activities.*

Using a simple measure of time is no longer an effective way to evaluate technology use. In late September 2015, the American Academy of Pediatrics (AAP) updated their advice to parents on children’s use of screen technology to removed time-based guidelines and replace them with [12 principles for parents to guide technology use](https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/Children-And-Media-Tips-For-Parents.aspx) and its context. This is a welcomed adjustment to the way we consider screen-based media use; the challenge now is to disseminate these widely accepted principles to facilitate healthy development in a digital age.

The discussions, research and public service/health announcements about what constitutes a healthy digital diet must continue. A focus on translating science/research into interventions and strategies that can be used by busy parents as they struggle to keep up with the hyper-immediacy and rapidly changing digital media landscape is needed.

It is important to consider the deeper design principles and features of the games and apps that young people use because it helps us to understand the related cognitive processes. A good understanding of the relationship between design principles and features of software can help us to develop an understanding of how cognitions can form in a maladaptive way in the absence of regulation. Attention should be paid to the metaphorical ‘nutrients’ within an online activity and the way that activity might be loaded with calories or vitamins to enhance learning or social skills as well as their maladaptive potentials.

*Digital citizenship requires a larger focus as an integral part of the curriculum.*

While a focus has recently been placed on developing technical skills, an increasing emphasis is being placed on digital citizenship, the acquisition of skills that required to become a wholesome, respectable digital citizen. The model of digital citizenship that the NSW Department of Education promotes has cyber-safety and cyber-bullying interventions embedded into it.

The domain of digital health and wellbeing requires further attention and proactive intervention programs to educate both young people and parents about ways to maintain their wellbeing in an era in which learning with technology is an expectation.

*The role of parents (in partnership with schools) is critical.*

Parents and the home environment play critical roles in child development and, as such, in the digital world they participate in. Issues that arise out of PIU and technology dependence is not restricted to the home. Many spill over into school and require resources to effectively address the issues according to best practice and local legislation.

The apparent digital divide between young people’s and their parents technical knowledge may causes some parents to abdicate responsibility for their child’s use of technology until PIO issues arise. A sense of ‘course-correction’ is currently occurring in this area, with an increasing recognition that young people benefit and indeed welcome limits, guidelines and expectations about their use of technology, both in the home and classroom.

Social media offers an important tool for sharing messages and for schools to communicate with parents. Schools can share their day-to-day logistics and notices, fulfilling an immediate information need, but can also use social media to better communicate key values and public service announcements that are relevant to the health and wellbeing of young people and their parents.

*Gaming provides new opportunities for engagement, when used appropriately.*

Attitudes and stereotypes about technology use, and particularly the use of games, is shifting. Using games for health and learning is becoming more popular, and the movement to design games with richer narratives and perspectives, and more purposeful play outcomes that solve real world problems is increasing.

The online commercial games, mostly designed for pure entertainment and for adult audiences, are the ones that come to mind when we think about gaming. The serious games and independent games movement offers new opportunities for student engagement and learning when used in balance with a range of other strategies. The challenge is for teachers to develop students’ capacity first to use gaming and then move towards best practice use of gaming in the classroom. The biggest challenge is for educators to adopt and develop expertise in games-based learning as quickly as digital cultures and trends emerge.

*Mindful and meaningful technology use is fundamental to preventing PIU.*

The need for balance with offline skills and interactions is essential while advocating for mindful and considered technology use. Mindfulness is being researched widely in its application for both preventing and treating a range of mild mental health issues, including anxiety and depression.

We need to explicitly teach soft skills like self-control, willpower and intrinsic motivation to bring awareness to how digital technology can create compulsive and habitual use habits. Many of these skills are expected but not taught. Social and emotional learning is a growing area of instruction in the US that embeds these skills into classroom instruction. Apps and games cannot effectively teach empathy, eye contact or gross motor skills, and educators need to be wary of relying on technology for engagement.

By cultivating soft skills, mindful and meaningful awareness of their actions and cognitions, young people can develop skills and strategies to live more rewarding and enriching lives in general.

*We need to unite key voices in the #DigCit and #EdTech space.*

The wealth of information, ideas, resources and key organisations in the space which straddles digital citizenship and educational technology is extraordinary, although fragmented. My tour united many of these organisations through introductions and social media mentions, harnessing many of the resources and developing presentations to school counsellors and psychologists back at home on the range of issues and ways to work with them.

The power of this ‘tribe’ to share, collaborate and amplify key messages is currently gathering pace with the coordination of the Digital Citizenship Summit (which is due to take place in October 2015) and the possibility of an [Australian DigCit Summit](http://www.digcitaustralia.com) in 2016 as a partnership between [Be Smart, Be Social](http://www.besmartbesocial.com.au) and Digital Nutrition.

Discussion and Recommendations

Digital citizenship, digital wellbeing and digital nutrition lie within a burgeoning field of enquiry with the potential to positively shape overall wellbeing outcomes of young people.

Various perspectives on issues relating to young people and technology are shared in the media. Many are pejorative, and there is much confusion about what is best practice as demonstrated by scientifically backed research. It is important that, along with developing 21st century learning skills, students also develop critical media and digital literacy skills and that those become a central component in pedagogy.

I foresee that a digital nutrition program of a suite of 15-minute tips/hacks and concepts could be part of the Positive Behaviour for Learning program. Digital nutrition is about encouraging awareness of positive behaviours and seeks to maximise learning opportunities using technology. Delivering a digital nutrition program for lower secondary school students would be useful to set up healthy habits, as many ‘legally’ get social media accounts when they turn 13. Peer awareness and mediation of technology overuse are also powerful mechanisms to help young people self-monitor and set social mores for their digital habits within their friendship groups.

More Information and Resources

Digital nutrition was outlined in my TEDx talk at the Northern Sydney Institute (part of TAFE NSW) in May 2015. Titled ‘The Quest for Digital Superfoods’, that 15 minute presentation outlined the premise and aspects of my study tour. It can be [viewed here](http://tedxnorthernsydneyinstitute.com/speaker/jocelyn-brewer/). I have also engaged in a range of media appearances relating to digital nutrition that can be viewed [here](http://jocelynbrewer.com/jocelynbrewer/media/).

I will continue develop the digital nutrition concept as a personal project over the next few years. I hope to see it develop into a dynamic resource that brings together the best practice principles and practitioners in the areas of educational technology, digital citizenship and the psychology of technology. Ongoing updates and information can be found at: [Digital Nutrition](http://www.digitalnutrition.com.au/), where links to social media channels and valuable blogs can be found.

Conclusion

Parents rely on the advice and information of policy makers, educators and experts to make reasoned decisions for their families. Ongoing communication and collaboration between schools, parents and other agencies is invaluable in disseminating information and up-skilling and empowering parents and young people in strategies to maintain and improve their wellbeing.

Technology and the Internet are here to stay. We have the choice to be proactive and informed in the way we integrate this powerful tool into our educational, social, cultural and leisure practices and maximise the potential benefits it has to enhance our wellbeing.