

On my shelf

GLENN FINGER believes that the move to standards and quality assurance agendas shape and will regulate behaviour, but asks whether or not they are being designed to take into account those who have *Grown Up Digital*.

I understand the importance of being a lifelong learner. As a teacher for more than 35 years, I also understand that I have learned from my many students during that time. As I reflect more deeply, I believe that the years before I became a teacher, when I was 'growing up', continue to shape who I am, how I behave, and my vision of what I can become.

My role as Deputy Dean in Learning and Teaching at Griffith University excites me most when I interact with my students – tomorrow's teachers – and, specifically, in the courses which I teach where students use digital technologies. The excitement for me is when we conceptualise and 'live' our individual and interdependent, connected digital pedagogies journeying.

Predictably, on my bookshelves are numerous teacher education and ICT research books, including a well worn copy of Seymour Papert's *Mindstorms: Children, Computers, and Powerful Ideas*, published in 1980. In the abstract, Papert conveyed that before he was two, he 'fell in love with gears', and believed that his playing with differentials did more for his learning of Mathematics than his entire primary school years.

This resonated with my own early experiences of learning and Papert's three messages continue to influence my thinking. These are worth repeating. Firstly, no one told him he had to learn about differential gears. Secondly, he remembers that 'there was *feeling*, and *love* as well as his understanding in his relationship with gears'. Thirdly, he remembers that his first experience with this was when he was only two. Instructively, and relevant to our current agendas, Papert warns that any attempt to 'measure' these would probably not have captured the impact of the consequences of this. In Papert's own words, 'A "pre- and post-" test at age two would have missed them'.

Hence my attraction to Don Tapscott's early work in 1998, *Growing Up Digital: The Rise of the Net Generation*. The strength of that book, through insights gained through student voice, was his observation that, while older generations were uneasy about new technologies, the young were embracing it. Tapscott saw these young people – the Net Generation - as a highly motivated, socially conscious group, willing and able to change society for the better.

It is now 30 years since Papert's visionary work, and 12 years since Tapscott's *Growing Up Digital*. So it was with interest that I read *Born Digital*, written by John Palfrey and Urs Gasser, who constructed their book by understanding that the 'digital natives' were coming of age. A key message in their book was that Governments, politicians and companies are not the only ones responsible for thinking about the future, and we need to understand that the 'digital natives' have the power to solve the problems and the challenges we face.

The discussion so far informs the spirit of my thinking about new technologies and teacher education. In leadership roles, where I am immersed in 'the data', and the deepening standards discourse, I believe that 'what is counted' shapes behaviour. We know that excellence occurs when passion, commitment, initiative are encouraged in respectful, relational cultures within classrooms, schools and communities. We know that the most significant changes to education have occurred when educator and their

students dream possible futures, and have the agency to create those futures. The sub-text of the standards agenda in education reflects distrust by Governments of the quality of teacher education, teachers, schools, and students.

On my desk to one side is Don Tapscott's latest work *Grownup digital: How the Net Generation is Changing Your World*, and beside it, *The Handbook of Technological Pedagogical Content Knowledge*, the work developed by the American Association of Colleges for Teacher Education (AACTE) Committee on Innovation and Technology.

Tapscott's latest work is compelling reading for educators, and is well organised in three sections – *Meet the Net Gen*, *Transforming Institutions*, and *Transforming Society*. The chapter in *Transforming Institutions* which directly relates to education is *The Net Generation as Learners: Rethinking Education* in which Tapscott suggests that many schools and curriculum continue to be designed for the Industrial Age. In that chapter, he provides the anecdote about his delivering a dinner speech to a group of University Presidents on what was wrong with Universities and how they needed to change. One President indicated that funds were the main problem. Another suggested that their models of learning built decades ago are hard to change, while another felt that the biggest problem was that the average age of the Faculty was 57, and they were teaching in a 'post-Gutenberg' mode. Another exclaimed that at his College, 'We've got a bunch of Professors reading from handwritten notes, writing on blackboards, and the students are writing down what they say. This is a pre-Gutenberg model – the printing press is not even an important part of the learning paradigm'.

Net Geners, according to Tapscott, need to learn how to look for information, analyse and synthesise it, and critically evaluate it. This compares with the old model where education was about students absorbing content, provided mainly by the teacher. To succeed meant being able to regurgitate what was committed to memory. Tapscott argues that, as students can find the facts in an instant, this old Industrial Age model no longer makes sense. Tapscott goes on to explain that it's how you navigate the digital world, and what you do with the information you discover is what counts. Interestingly, Tapscott refers to Papert to make the point that technology enables new ways of learning.

Technological Pedagogical Content Knowledge (TPCK) and now referred to as TPACK, is the conceptualisation that moves beyond Shulman's earlier work on pedagogical content knowledge (PCK), which was adequate for informing the design of teacher education programs before the Internet and the pervasiveness of ICT in an increasingly networked, digital world. This is essential reading for anyone involved in the design of teacher education programs and the continuing professional development of practising teachers. I am convinced that PCK is no longer sufficient for the paradigm that Tapscott and Papert envision.

In the centre of my desk are three key documents which will shape and regulate our behaviour in teacher education. These include the draft *National Standards for Teachers*, now out for consultation. Slightly on top of that document is Queensland Government's *A Flying Start for Queensland Children Education Green Paper*, also now out for public consultation, and buried underneath both of those documents is the Australian Government's *Digital Strategy for Teachers and School Leaders*.

The *Digital Strategy for Teachers and School Leaders*, in my view, is an excellent document that portrays some understanding of the digital world we live in. I suspect that Papert and Tapscott would approve! Among its aims is that the implementation of the Australian Curriculum promotes the use of digital technologies as an integral part of curriculum delivery so that they are not seen as optional tools. Based upon the Teaching for the Digital Age Advisory Group (TDAAG) work plan, it aims to build *pre-service teacher capability* so that future teachers achieve competence in the effective, creative, and innovative

inclusion of technologies in teaching and learning. This is exciting, but this sits under the following two documents which currently have centre stage.

The Queensland Government's Green Paper outlines a *Review of Teacher Training*, and that is not a misprint, as it refers to 'training' and not 'education', and foregrounds that 'Particular attention will be paid to school discipline and teaching literacy and numeracy'. No, not a misprint either – it really does state 'discipline' and might explain why Queensland is building a super prison. There is no mention of TPACK and no understanding evident of the TDAAG and the Australian Government's Digital Education Revolution agenda. It looks very *post-Gutenberg*.

More disturbing is the draft *National Standards for Teachers*. My search for the words 'digital', 'technology', 'computers', 'Internet', and 'TPACK' resulted in the same outcome, 'No matches were found'. Amazing and disturbing! In Professional Knowledge, there is the expectation that teachers '... know effective pedagogies for teaching ...content and understand how ICT can support and enhance student learning'. Subsequently, though, upon further analysis, I am amazed that, of the 26 Standards statements for graduates, ICT only appears in one of them - Standard 2.7, which requires Graduates to '...know how ICT can be used to enable and enhance student learning'. This document looks very *pre-Gutenberg*. I would strongly suggest that the writers of these important standards, and those undertaking the review of teacher education in Queensland need to project themselves into the 21st Century, and add *Grownup digital: How the Net Generation is Changing Your World*, and *The Handbook of Technological Pedagogical Content Knowledge* to their shelf.

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