

# Foreword

## BEYOND THE DIGITAL NATIVE METAPHOR

Fifteen years ago I noticed that young people were changing — becoming less like their parents in many important attitudes and behaviors — particularly concerning information and technology. I wrote an article called “Digital Natives, Digital Immigrants”, which was published in an obscure journal that was also available online.

The essay, and particularly the terms “Digital Natives” and “Digital Immigrants”, struck a chord. They seemed to make sense to a lot of people as a metaphor to describe the changes they too were seeing. The terms gave people a new language to talk about these profound changes in the world.

I first realized this deep need for new language when I received an email from the Gifted Children’s Association of New Zealand. They wrote, in an email, “We read your article in the newsletter of the Gifted Children’s Association of Tasmania. May we reprint it?” I had no idea this publication had even happened. I became newly and acutely aware that there were people all around the globe searching for new ideas and explanations of the new behaviors and attitudes they were seeing in their kids.

In the intervening decade and a half much has happened.

First the terms Digital Natives and Digital Immigrants (particularly the former) became “memes.” All kinds of people started using them, including Bill Gates and Rupert Murdoch. Books were written using those terms.

Then came the backlash.

Some educators thought letting our kids call themselves “digital natives” gave them an excuse not to do the “old” stuff. But it also helped reveal to the world just how much of the “old stuff” needed to be replaced. It’s now educators’ job to replace the old with something better, that truly fits the world in which today’s young people – whatever we call them – live.

A handful of academics took the term “digital natives” to task on a different dimension. “Prensky says that since kids were born in the digital age, they know everything about technology, practically instinctively – and certainly more than all adults do.” Because the proposition that “all kids know more about technology than all adults do” is patently false, they had no problems disproving it. And they did, publishing a great many articles calling the “concept” or “existence” of digital natives a “myth.”

My surprise was that they had taken the “metaphor” so literally. Taken metaphorically – as of course a metaphor should be – the idea of different attitudes in a new, digital era is quite valid. So “digital natives” is actually less a metaphor about technological know-how, and far more one about cultural change.

Almost all of today’s adults grew up in a pre-digital culture. There was no “computing.” There was no Internet. There was no Facebook. Or Google. Or mobile phones. Or chat. Or Instagram. We adults

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coped, of course, using all the tools we had developed across the ages. When we had ideas, we wrote and published books. When we required the thinking of others, and wanted to do research to find it, we went to the library. When we wanted to share, we wrote letters. When we needed a piece of general information or a phone number, we looked it up in the encyclopedia or phonebook. When we needed to purchase something, or do other things that required quantities, we calculated on paper or in our heads as we were taught. The tools we had worked for us, and we thought it crucial that we teach them to our children. So we made sure we had, and taught, a curriculum that helped our children do these things as easily as we had learned to do them.

That curriculum emphasized the skills that had been crucial skills for us: Reading and writing. Calculating. Researching and finding information. Expressing one's self well on paper. The curriculum taught our kids to listen and take notes, how to study and parrot back so they could do well on our exams, and could go on to higher education – which employed those particular skills almost exclusively.

But our kids were growing up in a new world – a world with digital technology, and different requirements – for new ideas, flexibility, adaptability, and many other new things. As our kids explored their new world – as kids will do – they began to think and behave differently. Their attitudes towards many important things beyond just technology, from relationships, to communication, to privacy to property (as well as security, sexuality, power, kids, violence, god, justice, money, love, government, and even time and space) began to change.

And although each attitudinal change may have specific causes, here is something to reflect on: Today our brains are being continuously “extended,” as technology provides us with massive new possibilities and capabilities. At the same time, our extended brains are becoming connected, by our new worldwide networks. Less than 30 years ago, scientists thought our brains never changed their basic organization – once the connections were formed they stayed forever. New brain cells were never added – they only died off. We now know that is totally false – the brain is massively “plastic,” changing its connections as it receives input from the outside world.

So why shouldn't these “extended brains all networked together” – which is what our young people are – be massively plastic as well? And as their context changes radically, why shouldn't the thinking and attitudes of these “extended brains all networked together” be changing as well?

And that has happened. The behaviors and tolerances of the young people have begun to alter. They get bored far more quickly with lectures – and therefore with school. They have become used to it, and demand for more instant feedback than adults had ever gotten in the past. They have adopted the tools of their time – which many of them have in their pockets – with a vengeance, and have begun figuring out better and faster ways to do things.

Yet over those 15 years, the education system changed very little. As the digital natives – outside of school – became more and more empowered by technology and all the new ways it extends and connects their brains, often their new, better and faster ways seemed to adults as “cheating” compared with the struggles that the adults had gone through in the past. The newly empowered kids are now suffering through our educational system, which is less connected each year with the lives they lead outside – lives that are often passionate about new technologies, new capabilities, and new ideas. Their formal education – where they are obliged by law to spend a big part of their time, is not offering them the skills they are realizing they need to succeed in their fast developing world.

And now these so-called “digital natives” are arriving at university, having spent their entire lives outside of school in the new digital world. Will they now accept the old higher education system – which is in most ways, just a stricter version of the education that they already know doesn’t fit? Or will they start to look for things that engage them more? We see more and more evidence that the latter is what’s happening in too many cases.

So what do we do?

Our current education systems are based on an old paradigm of “academic learning:” i.e. courses, exams, individual achievement. That is all most educators know. Many are dissatisfied and want to make changes, yet all they know how to do is to “do the old things a little bit better.” In their attempt to “engage” their students, they perhaps offer a few less lectures and a little more “doing.” They perhaps add, or allow, a bit of technology in the classroom. They perhaps approve, and even use, a simulation or a game here and there. And the educators that do so often think to themselves “We are making changes.” And they wonder “Why are our students still not engaged?”

The reason is at once simple and profound.

These so-called “digital natives” – now our university students and beyond – want and need to go beyond the education of the past, onto new paths. Their new world is no longer a world of repetition, but rather of exploration – of the universe, the brain, and of our new digital and virtual worlds. Today’s students are “engaged,” fundamentally, by very different things than their parents were. They want problems of the future, and not problems of the past to solve – even in traditional disciplines. They want to use the best tools of their time to solve them. They know have the tools to – and need to – solve these problems in worldwide collaboration with their peers, rather than as individuals. They want an education customized for their times and for them, far more than it ever was – or could be – in the past.

Sadly, these are not the goals or methods of our current education or of academia in general. So we need to invent new ways to reach these objectives. We need to find ways for students to not just “learn”, but to become the good, effective and world-improving people of the future. Because the methods of the past are now expiring, we have to experiment to create new ones. Today’s students live in a time of great experimentation – Facebook, by itself, which now reaches 1/5 of the globe, is the world’s biggest experiment in new ways of collaboration and relating. And there are millions of other experiments going on in individual places, and by individual groups.

It is now time – actually way past time – for everyone in education to join this experimentation. The world has changed, and not to experiment to find the best ways to adapt would be irresponsible.

Two particular areas cry out for experimentation and change.

The first is what we teach. In the past it was fine to master the “disciplines” – math, language, science and social studies – as preparation in the primary and secondary years. But now, in a time requiring so much more, our students arrive at university with a terribly narrow set of skills, and are not prepared to tackle the demands of the future.

Today’s students lack the “thinking skills” of curiosity and questioning, creative thinking, design thinking, integrative thinking, systems thinking, financial thinking, inquiry and argument, judgment, transfer, aesthetics, habits of mind, positive mindset, stress control, focus, – and even self-knowledge of their own passions, strengths and weaknesses – because these things have not been systematically taught to them, as disciplines have been.

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They particularly lack the skills needed for effective action, such as the habits of highly effective people, agility, adaptability, leadership, followership, decision making under uncertainty, experimentation, prudent risk taking, reality testing and feedback, patience, resilience, “grit” entrepreneurship, innovation, improvisation, ingenuity, strategy, tactics, breaking down barriers, project management, programming machines, making effective videos and innovation with the current and future technologies – skills that are so quickly emerging as crucial.

And far too many lack the “relationship skills” of effective communication – one-on-one, in teams, in families, in communities, at work, online and in our new virtual worlds. Nor have our students been systematically taught the skills of networking, listening, relationship-building, empathy, courage, compassion, tolerance, ethics, politics, citizenship, conflict resolution, negotiation, coaching and being coached, and peer to peer mentoring – skills that will be so important in their future lives.

In their new world, our empowered kids will require all of these skills. And that is why the world needs a new curriculum, based NOT on mastering a few academic subjects, as in the past, but based on teaching and mastering all the skills of effective thinking, effective action, effective relationships, and effective accomplishment instead – in order to become good, effective, world-improving people.

The second area is how we teach these skills. The skills our new empowered kids need cannot be gained, as in the past, just by studying in classrooms. Doing, and particularly accomplishing, is required. It is time to move from “academic learning” to “Real-World Accomplishment” as our primary means of education, from the primary years all through university. This is already being recognized, as schools at all levels turn to “project-based learning” as a way to teach accomplishment, which is really the core skill our students need to succeed. Now it is time for accomplishment to move beyond solving “made up problems” and on to solving real world problems. Our empowered kids now have the tools and desire to truly become world-improving people. What they need is our help.

So what lies beyond the earlier “digital natives” metaphor is the reality of young people with “extended minds, all networked together” – today’s new “Global Empowered Kids.” As we begin taking this reality into account, and begin developing these young people differently in their primary and secondary years – so that they arrive at university with strong skills as effective thinkers, actors, relators and accomplishers, and a resume of real-world accomplishment – our higher education system will have to look very different in order to usefully serve them. Now is the time to begin thinking about how we in higher education can help future students “go beyond” the past, into the world of tomorrow – in a deep, effective and world-improving way.

Our new times really do demand a new education – at all levels. And it is our job to design it.

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