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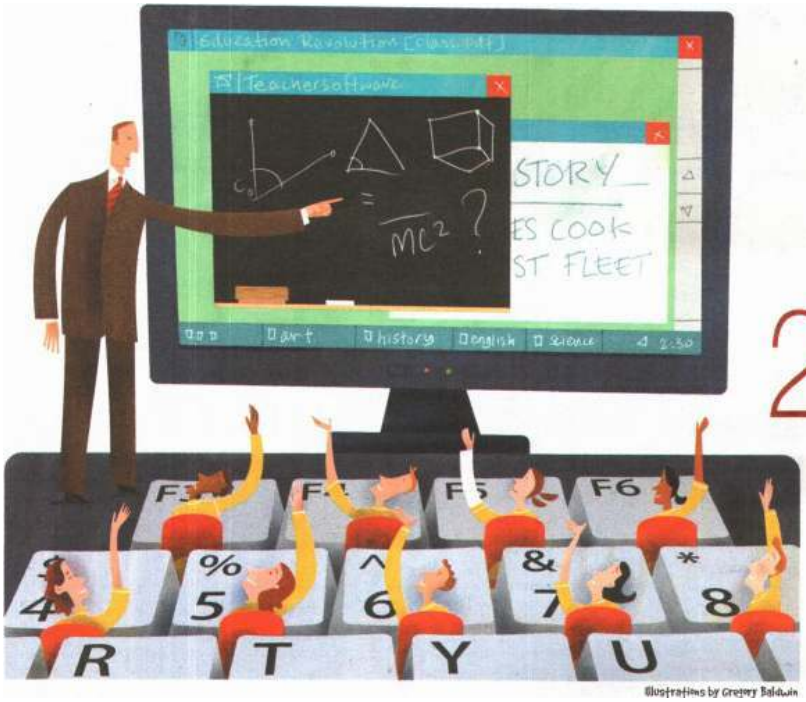

Illustrations by Gregory Baldwin

Teaching For The 21st Century

Michael Nagel calls for a real revolution in education – one that focuses on our future, not on our past.

At the beginning of 2009, the Federal Government launched its education revolution and the Federal Minister for Education, Julia Gillard, sent out a press release entitled 'Building the Education Revolution – Primary Schools for the 21st Century'. Within much of that document, and in the current rhetoric found in almost every proposal, sound bite, media release and article relating to education, are the phrases "21st Century education" or "21st Century skills". In essence, the role of education is to provide students with the necessary skills for a 21st Century economy. Labels such as '21st Century education' are powerful, and appear to herald a new era, but not unlike many educational reforms of the past, ideas that have merit can be, and often are, reduced to a cliche. Worryingly, the reforms and agendas bandied around as 21st Century initiatives do not amount to anything substantially different happening in schools. This is exacerbated by policymakers who believe that the best way to revolutionise education for the future is to improve on what has been done in the past. This raises some important questions. Firstly, are the students of today different from those of past generations? Secondly, should 'schooling' change and if so, why and how should it change? And finally, what might be the differences between the rhetoric and the reality, and what impact might these have on the futures of our children?

One of the common laments of parents and grandparents is that the children of today are different from those of previous generations. Most people would agree that every generation presents new challenges and attitudes and evolves within the changing culture around it. However, it could be argued that the differences evident in today's children and those of the past decade or so are more pronounced than at any other time in human history. This is directly linked to how quickly the reality of our current lives has changed through unprecedented global transformations, a growth in what is referred to as the 'knowledge' economy and the impact of advances in technology.

There is little doubt that technology has changed the way we live and changed the society within which our children are raised and educated. Most people have forgotten that this monumental societal shift only began in the mid 1990s when the internet and personal computers became a reality. The impact of advances in technology is often fodder for much debate and critique, but there is little point in denying that children born into this era are able to access the world in a completely different way from previous generations. It is not uncommon to hear people characterise today's younger generation as 'digital natives', 'screenagers', 'netizens' or 'homo zappiens' who see much of the world in real time and operate in a society where a wealth of information and communication is but a click away. Digitisation has resulted in a belief that smaller is better and speed is a virtue. There is even a growing body of research suggesting that the information age is changing the way our children's brains operate in relation to attention and multi-tasking. Anecdotal evidence gained from watching children engage with technology supports the assertions of scientists. Think about this next time you see your children learn to use a new electronic gadget or do their homework. Instruction manuals and quiet spaces are quickly becoming a thing of the past. It is, however, important to remember that what we see in our homes is but a reflection of the wider changes within society, and these changes have also occurred rapidly.

The world has changed, and perhaps this is no more evident than in how we, and our economy, work. Consider that in 1991 the total amount of money spent on industrial goods in the world's most powerful economy, the USA, was exceeded for the first time by information and communication technologies. In other words, more money was spent on computers and technology than on the machines and engines needed for mining, transportation, energy production and agriculture. Some have argued that this shift saw the 'industrial' age replaced by the 'knowledge' age. This is evident in a global economy where access to information and advances in technology have resulted in market deregulation, cultural integration and electronic modes of global communication that transcend geographic borders and time-zone restrictions. All these changes give rise to different types of jobs, highlighting the need for educators and bureaucrats to question the role of schools in preparing learners for the future. It also suggests that we must consider what constitutes an appropriate curriculum. The trend towards globalisation increasingly requires workforce participants who are creative, innovative and clever, and estimates in the USA suggest that young

people today will have more than a dozen different jobs as adults. Additionally, it is important to remember that 'schooling' is not a neutral endeavour, but rather an integral part of society where decisions of those in power have a direct impact. This is very problematic, for it represents a potential generation gap that may have long-term detrimental consequences as we prepare children for a future we cannot fathom. In other words, policy decisions made by those raised and educated in an industrial era may not mesh well with the day-to-day realities of children growing up in a time where information and knowledge access is the driving force shaping current realities. In short, the reality and rhetoric often do not match up, and we find that proposals for improvement or proposals that are presented as revolutionary are not too different from 20th Century 'innovations'.

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Revolution' program has focused on tools and infrastructure – in the form of laptop computers for students and new buildings for schools. One could argue that this strategy is more refurbishment than revolution. There is also much fanfare about a uniform national curriculum, standards and accountability. At the risk of appearing flippant, one could ask what is new or revolutionary? Historically, the education agendas of governments have often flirted with a desire to develop some uniform benchmark that could be used to determine every child's learning. The road to such a utopia would be found in a common curriculum that all students would cover over a period of time and that would value some forms of knowledge over others. Unfortunately, the lens for developing the standards and measurement tools for success has been, and continues to be, focused on past expectations. And while there is no question that a fundamental goal of education is to ensure that all children attain a certain standard of education, we must question how they do so in a 21st Century world, given that school and systemic structures have not changed much in the last hundred years.

Before scrutinising past and present educational practices, some important points need to be made. First, the following ideas are not intended to critique or somehow diminish the work of teachers. Indeed, the most integral aspect of a great education is intimately linked with the teacher, not with a glossy document or the latest techno-wizardry. In fact, all too often great teachers find themselves restricted by the structures, both physical and systemic, that they have to work within. Also, it is worth acknowledging that our education system has served society quite well and that expectations of basic standards for all children are vital for the future. If not for our education system, many of the things we take for granted in our day-to-day lives might not have occurred. It is therefore important that we don't throw out the baby with the bath water, but rather look to instigate change where it is both timely and advantageous. A starting point would be to look at some of the things that have not changed all that much over the years.

When education became available to the masses, schools were designed on the

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basis of 19th and 20th century principles and exemplars. The school year was initially based on an agrarian calendar, allowing summers off for students to work in fields, as agriculture was often the primary work of most Western societies. As the industrial age took hold and people migrated to cities, the practice of schooling shifted as well. School structures emulated an industrial framework. Classes were often one-hour periods marked by bells, and the curriculum was designed on the model of a factory line. Children arrived at school as blank slates (raw materials) and were segregated by age, which was an administrative function, not an educational one. The teacher delivered content, much of it derived from the Middle Ages, in the form of language, maths, sciences and the arts. The goal was to fill the heads of students with as much information as possible, with the desirable end product described as 'learning'. And finally, the success of the assembly line was determined via tests that were lauded as a true measure of a child's capacities and a school's efficacy.

One could rightfully ask how much change has actually occurred in schools since their earliest days. Arguably, many of these same factory-line practices still occur in schools, especially secondary schools, today. Students of the same age shuffle from class to class when a bell rings, and engage in subjects that appear devoid of any links between each other – one teacher 'installs' maths, another history, and so on. Moreover, anyone who espouses the idea that the potential of a student is best measured through standardised examinations is probably gazing into the past, not the future. This is problematic, given what we know about the young people of today and what we have learned about learning. In essence, the educational structures of the past are creaking under the strain of a new millennium and a different type of student.

It can be argued that children born in this digital age know more about the powerful tools shaping our society than their parents and teachers. They are also more directly in touch with events, experts and people around the planet than any other generation, and are able to access information on an unprecedented scale. Furthermore, where previous generations of educational endeavour often focused on visceral ('hands on') activities, the current generation of students learns both viscerally and virtually. They tend to operate on twitch speed and are tacitly more concerned with developing the skills necessary to function in today's society than the content of a textbook. If we couple this with a changing economy

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and job market, it would be wise to suggest that many past educational practices need rethinking if education is to meet the current and future needs of students. For parents, this suggests that they should become an active part of any dialogue related to their child's education, but that they should do so with the realisation that much of what they experienced in school can no longer shape the curriculum or teaching. There are, however, ways forward, and many schools are adopting new approaches to working with students.

Twenty-first-century schools and progressive educators recognise that changes are necessary and are looking at ways to restructure the school day and the curriculum and to engage learners in ways that are more suited to the world around us. Multi-age classes, integrated curricula, flexible timetables and approaches to learning that recognise it as a process rather than a product are becoming more evident in some schools. In such schools, standardised tests are seen as a tool and one very small source of data related to learning, and not a panacea for improvement. Innovative schools are also expanding their repertoires of practice and have recognised a need for developing emotional and social literacy along with ensuring that creativity is nurtured. In this sense, subjects such as those found in the creative arts have become as important as the traditional disciplines and are not relegated to the periphery of learning.

Progressive schools also see the community as an integral part of the school and ensure strong links between the two, while helping to develop programs enhancing the types of skills today's children will need for tomorrow's world. These skills include critical thinking, problem solving, digital literacy, creativity and innovation and a greater understanding of social and cross-cultural interactions. These are some of the practices that progressive schools are implementing in order to transform, not reform, education, with a view to personalising it rather than standardising it. Unfortunately, much of this is often hindered or undone via the rhetoric espoused by policymakers and politicians. Focusing on a standardised curriculum, standardised testing, providing laptops for students, and establishing a website that simplistically ranks schools, has the potential to result in educators having to shift their efforts away from the very skills that research suggests are critical for children to have.

The 21st Century is well and truly upon us. Children today are different from previous generations, and experience the world in a vastly different way from them – technology has ensured that this is the case. This suggests that as long as the reality and rhetoric do not match, the more likely it is that our children will not get the best education possible and may be ill equipped to deal with a vastly changing world. When it comes to education for today's students, the word 'revolution' is appropriate, but in essence it means 'a sudden, complete or marked change in something'. We would therefore do well to ask how much longer we can continue to educate 21st Century students with 20th Century methods. ■

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