Mediated Conversations - Determinism Or Democracy
The language of digital technologies policies
Kathryn Moyle

Abstract
Policies advocating the use of digital technologies in government schools are promoted by all public school education systems in Australia. These policies are used to make decisions in the present in order to achieve preferred visions of the future. It is time to consider policies and strategies that will foster the democratic control of digital technologies in schooling. The purpose of this paper is to propose some understandings of current Australian schooling sector digital technologies policies with a view to asking: ‘what is driving meanings of public schooling that now include digital technologies: determinism or democracy?’

Introduction
Public conversations about how to foster the democratic control of digital technologies in schooling are urgently required. There are more policies advocating the use of digital technologies in schools than there are government school education systems (cf Moyle 2002). Across Australia, hundreds of millions of dollars are committed annually to fund these policies (cf Moyle 2002), the results of which, to date, have included the development of complex sets of inter-relationships between the state and federal public schooling sectors, and between the respective jurisdictions and the markets. If we accept the concept of democracy includes the view that people should participate in decisions that will shape their future (Mathews 1989, Scruton 1982), and we accept that schooling is an important instrument for social and cultural reproduction (Bourdieu 1973), then there is a public responsibility to debate the nature and consequences of schooling sector digital technologies policies. To delegate to the market the responsibility for social choices, and to accept the interests of the market as commonsense (Gramsci 1971), is to abdicate from furthering the democratic history and tradition of free, compulsory and secular schooling. Michael Apple (1986) has warned however, that debates in schooling ‘have all too often remained on a very abstract level, rather than taking the tools and actually applying them to the concrete history and reality of the policies and practices involved in the organization of teaching and curriculum’ (Apple 1986: 8). Taking heed of Apple’s (1986) advice, the purpose of this paper is to develop some interpretations and understandings of the present circumstances, with the aim of pointing the way to some of the possible answers to what public schooling that fosters the democratic control of digital technologies may mean in Australia in the 21st century.
Present context
Fostering the democratic control of digital technologies in schooling requires understanding the present context and conceptualising preferred futures. I have written about possible conceptualisations of the future elsewhere (cf Moyle 2003a). The purpose here is to unlock some meanings inherent in the current language employed by the policies, thereby providing opportunities for interpreting, understanding and explaining the stories that sit behind the policies. Developing understandings about the current policies provides a ‘base line’ from which to begin further conversations. Such an approach allows us to sight the gaps between where we want to be and existing governments’ stated policy positions. The policy language and the definitions are not pre-ordained or set however, but are emerging and developing, making them open to contestation. In such an environment then, conversations are important in order to understand the forces that may be operating and for clarity of thinking to prevail about how to move forward.

To begin, this paper firstly situates the conversation with an outline of the importance of the physical infrastructure to the provision of free, compulsory and secular schooling in Australia. Secondly, the language of school education digital technologies policies is interpreted; and finally the question ‘what can be done?’ is briefly addressed.

Situating the Conversation
Traditionally, the provision of public schooling in Australia has been central to being a civil society (Cox 1998) and has therefore been seen as a public good (Reid 1998). A consistent feature defining compulsory education since the inception of the original Education Acts, has been the requirement on parents to ensure their children physically attend school. In the 21st century in Australia, compulsory schooling remains legislated: all children aged between six and fifteen or sixteen (depending on the state or territory) are legally required to attend school. Universality of access to schooling in part, is ensured through the provision to communities of government owned buildings called schools. These buildings are a central piece of the infrastructure of public schooling, and of the community they serve.

One way the importance of compulsory schooling to the State can be judged is through the punitive legal capacity to charge and fine parents of students who do not meet the school attendance requirements, as specified by the State. Special administrative instructions and guidelines are in place and have to be fulfilled before a student can be exempted from physically attending school and instead, undertake State schooling, provided at a distance. Given

---

1 Indicative examples of these requirements can be found in Education Department of Western Australia 1999, and (then) Department of Education, Training and Employment (DETE) (South Australia) 1999.
the weight of this legal context, in the 21st century we now have to consider the implications of the present schooling sector digital technologies policies for the provision of universal schooling. An assumption of equality has underpinned the provision of public schooling since the establishment of the respective Education Acts in the colonies in the late 19th century (Partridge 1973). If we accept the present policy positions of the respective Australian governments that sees public schooling constructed to include the use of digital technologies, universality of access to the necessary technical infrastructure of schooling, as a consequence, is also required. In the 21st century then, a challenge for governments is the provision of public schooling which includes equitable access to digital technologies for all students.

Now school buildings not only have to be suitable places in which students are able to safely meet, study, learn, play and practice different sorts of interpersonal relationships, but in addition students require suitable school buildings in which functioning computers connected to the Internet are secure, freely available and easily accessible. The use of these technologies requires access to telecommunications and electricity as well as to the hardware and software. In schools, local and wide area networks are required for communication between computers. At present, many of these digital technologies products and services are provided to the respective schooling sectors and to schools by the private digital technologies market; hence the provision of public schooling and the markets intersect. These policies have resulted in the provision of the infrastructure required for the delivery of public schooling dependent, often in unprecedented ways, upon the market. As a result we are seeing the commercialising of the digital spaces used in public schooling.

During the 1990’s Kenway, Bigum, Fitzclarence, Collier and Tregenza (1994) observed that a new triad consisting of education, markets and information technology was emerging. They saw this ‘market triad’ as problematic, suggesting that educational democracy is being redefined ... as consumer democracy in the education “industry”. Investors are encouraged to see education as a site worth cultivating for various sorts of profit, and consumers are encouraged to seek the competitive edge (Kenway, Bigum, Fitzclarence, Collier and Tregenza 1994: 321-322). Constructing the public schooling sector as a market though, makes it an easy step to consider those within the market as consumers or customers. Since markets are associated with unequal power relations (Marginson 1997), constructing students and parents as customers within education markets places them into subordinate positions of power. This commercialising of the digital spaces in public schooling then is at odds with the democratic sentiments that have underpinned past understandings of free, compulsory and secular schooling. It is a potent mix of State and private sector policies though, that sees schooling as compulsory between the ages of six and fifteen or sixteen, and at the same time views students and their families as markets.
Against this backdrop of the existing relationships that exist between the market and the public schooling sectors, and against the tradition of the provision of free, compulsory and secular schooling, it is important to critically examine the language used in the schooling sector digital technologies policy statements.

Language of Australian Schooling Sector Digital Technologies Policies
Choices about what digital technologies are used in schooling and how they are utilised and deployed have social consequences. Policy language is carefully constructed with each word chosen meticulously. The nature of policy language can therefore provide indicators of how the authors consciously or unconsciously position the sector.

Digital technologies
Digital technologies are at the same time both artefacts and social constructions. The use of digital technologies requires a level of technical knowledge, socially applied (Kress 1997), in order for them to meet their purposes. Different people require different levels of technical knowledge depending upon what sorts of technology they are using and the purposes for which they want to use it.

Technological determinism
Many of the schooling sector digital technologies policies use technologically determinist language. The language of ‘technological determinism’ suggests that technologies emerge almost from ‘thin air’, and of themselves, transform society as they are diffused (Bromley 1998; Henwood, Wyatt, Miller & Senker 2000; Margetts 1999; Smith and Marx 1998). This view suggests that technology is developing according to its own laws and timeframes, apparently without the use of the power and control that humans can exercise. It is as if technology is developed according to some predetermined technical rationality (Robin Williams 1999). Adhering (deliberately or not) to technologically deterministic positions means however, that instead of thinking about the use of digital technologies being within our control and dependent upon what we want to do given the context, nature and purpose of the technologies, it instead becomes possible to abdicate to the market the responsibility for the planning of preferred futures in the schooling sector.

Utopian quests – solving economic and social problems
Technological determinism is equated with social progress (Bromley 1998) and is also linked to what is labelled here as ‘utopian quests’ to ‘harness technologies’. Partly this can be explained as being due to the characteristics of public policies since these policies by their nature reflect the ambitions and intentions of governments. In many of the policies advocating the use of digital technologies in schools there is a utopian undercurrent about the potential ‘miracles’ of using digital technologies to solve a range of social
issues. It is implied that these technologies will, of themselves, bring about an improved education provision and social future.

Digital technologies are seen as symbolically important to be able to demonstrate that the State is providing a ‘modern’, high quality education. It is promised that this quality of schooling will provide a competitive edge locally, over other schools, and more broadly, with other Australian states and territories, and internationally. At the ‘whole of government’ level each state and territory claims it will be competitive or internationally competitive in the global economy by teaching students to use digital technologies at school. In Victoria ‘the Government intends to position Victoria as the information and communication technology and knowledge capital of Australia’ (Government of Victoria 2000: 82). South Australia will be ‘one of the most connected communities in the world’ (State Government of South Australia 2000). The Australian Capital Territory Government’s objective is ‘to ensure Canberra is a leader in Information Technology (IT) in Australia for both the public and private sectors’ (Australian Capital Territory Government 1999b: 4). All the states and territories are using digital technologies as a sign that they are economically competitive.

Each state and territory proclaims its future will be intelligent, smart, innovative or something of a similar ilk. The Australian Capital Territory for example has a whole of government plan called Creating the future (Australian Capital Territory Government 1997) that advocates that Canberra will be the ‘Clever Capital’ (Australian Capital Territory Government 2001). A media release by the (then) Australian Capital Territory Chief Minister states that ‘the Education Department was looking to enhance [its] reputation as the “clever capital” by continuing to invest in our children’ (Carnell 2000: 2). South Australia’s whole of government digital technologies policy is called Information Economy 2002: Delivering the Future (State Government of South Australia 2000). Queensland promotes itself as the ‘Smart State’ (Queensland Government 1999a, 1999b). Each state and territory and the commonwealth proclaim the desirability of moving the provision of government services into an online environment (cf Queensland Government, Department of Communication and Information, Local Government and Planning 2000; New South Wales Government 1998). In the Australian Capital Territory for example, in the 2000-01 Budget, $18 million was allocated ‘for a series of initiatives that will put most government transactions and information online’ (Carnell 2000: 1). In other words, digital technologies policies are one of the mechanisms used by governments to promise a better and brighter future where innovation will be rife and jobs will be created.

Some policy documents forewarn of what will happen if the utopian promises of the ‘information economy’ are not adopted. Participating in this revolution will empower communities to shape their destinies in ways never before imagined. Either we embrace this challenge and prepare for the future, or we lag behind the rest of the world. Our economy will suffer and our communities will not reap the
social benefits if we fail to harness communication and information technologies to access global networks of knowledge, information, entertainment, goods and services (Queensland Government Department of Communication and Information, Local Government and Planning 2000: 2).

The language of technological determinism and the terms used when describing ‘technology as needing to be harnessed’ allocates ‘technology’ an identity. The character of ‘technology’ has its own control over its priorities and directions. It is as if the technology has a free will, which is there to be ‘harnessed’. Such statements make it sound like the technologies are ‘free ranging’, much like horses or chickens, and that harnessing them will bring these otherwise unruly technologies into use for schooling, thus making the harnessing of technologies a role of schooling. This is ironic since we would not allocate such an identity to a hammer or a car or a carrot, except in fantasy, perhaps like in Bananas in Pyjamas.

Wise (2000) however, is more cynical about the ability of digital technologies to solve social and economic problems. He states that

the ideology of the information age is a convenient myth for politicians since it explains current economic troubles (falling real incomes, job insecurity and unemployment) as the inevitable result of technological change while at the same time promising a better future without the need to change the existing economic arrangements (Wise 2000: 199). Instead, the present ‘information age’ reinforces and in some cases intensifies the existing economic arrangements.

Change is rapid
Technological determinism is also equated with rapid change. As Martyn Forrest (Secretary of the Department of Education, Tasmania) states: ‘young people are growing up in a world characterised by rapid technological change and global communication’ (Forrest 2000: 1). In the schooling sector policies, the speed of change is presented as inevitable, ‘rapid’ and a phenomenon to which teachers and schools should respond: ‘schools need to be dynamic and flexible to the rapid changes in information and communications technology’ (State of Victoria 2001: 1). The texts conspicuously present a view that various technologies have the power to be an agent of change, and that technology is considered as the independent driver of these changes. There is little consideration of what is causing these views, or whether the speed of change can be controlled or why it is perceived to be so fast. It is assumed that the speed of change cannot be controlled and therefore, schools must be responsive to that speed of change: ‘teachers will need to respond to the new work and technological conditions of schools’ (The State of Queensland 2000: 10).

Yet digital technologies are created and controlled by humans. Markets are social constructions where the sale of digital technologies to the schooling
sector is within the control of people; in this case education leaders and managers, and vendors. Teachers and students should be in positions of creating the new work conditions that include technologies not simply responding to them.

Revolution

In the government policy texts, related to the notion of rapid change is the concept of ‘revolution’.

It is about deploying the true miracles of the communications and information revolution to transform rural Australia, to break down the barriers between metropolitan and country Australia and this to create new futures for all Australians (Information Policy Advisory Council (IPAC) 1997: 3).

There are many concepts of ‘revolution’ however. It can be used as analogy, akin to the industrial revolution. The Tasmanian Department of Education departmental policy Learning Together (2001) states

We have started to move out of the industrial age and into the information age. The information age holds the promise of a world vastly different from our current one. It has been likened to a starburst (Department of Education (Tasmania) 2001: 1).

The term ‘revolution’ however has a sense of coercion about it, and has the capacity to develop binary distinctions: ‘you are with us or you are against us’; you are part of the revolution or you are a part of the status quo. Implying such binary distinctions within school education policy documents however, is unlikely to be helpful to the creation of positive and shared understandings of where the future of schooling can be.

Transformation: Information Age ⇒ Knowledge Age ⇒ Power ⇒ Democracy

Related to the concept of revolution is the concept of transformation. One claim of transformation arising from the use of digital technologies, is that there will be access to more information. This will lead individuals to create more knowledge, which in turn will lead them to more power and therefore democracy will be achieved. These linkages seem to draw from Francis Bacon’s (1627/1960) view that knowledge is power and people’s lives will be improved through rationality and technology, and this will lead us naturally to democracy in the 21st century, where our lives will be transformed. It is important to remember though, that the processes occurring within schools are based on interactions of many kinds, not simply on the digital provision of information. It is a mistake to believe that access to information alone will lead an individual to be able to exercise increased power over his or her lot in life, or that democracy will be achieved simply through the provision of information.

Another interpretation asserts that links are created between the access to information, characterised as the ‘information age’, and to information being intelligently combined with wisdom which leads to the ‘knowledge age’. Such claims are based upon an economic paradigm where value is located in
information: ‘a country’s store of information is ... its greatest source of wealth’ (Stonier 1983: 12). The concept that information has an economic value gives rise to the labels of the ‘information age’ and the ‘information economy’.

Economic growth is seen to occur through the application of information and knowledge to tasks. ‘The knowledge-based economy will rely on technology, innovation and capabilities to create wealth and raise the standard of living’ (Northern Territory Government 2000: 20). Similarly, the Organisation for Economic Cooperation and Development (OECD) states that economies are increasingly based on knowledge and information. Knowledge is now recognised as the driver of productivity and economic growth, leading to a new focus on the role of information, technology and learning in economic performance. The term “knowledge-based economy” stems from this fuller recognition of the place of knowledge and technology in modern OECD economies (OECD 1996: 3, emphasis in the original).

Marginson (1997) makes links between information, knowledge and the economy by noting that ‘the post-industrial literature argues that a new social structure is emerging in which industrial production is replaced by knowledge relations’ (Marginson 1997: 15). Drawing on Mandel (1978), Raymond Williams (1983) and Jameson (1984), Marginson goes on to argue that markets in education are better understood as an extension of capitalist production, consumption and exchange to new spheres rather than an altogether new economy. Value production continues to be triggered by human labour, and property remains subject to individualised ownership. The spread of knowledge as intellectual property indicates that old forms of economic organisation and control have adapted to new markets and new kinds of commodity (Marginson 1997: 15).

Schools are central to the conceptual flow which suggests that information leads to knowledge, which leads to power, and this leads to democracy. Schools are implicated in this paradigm, as the following policy extract demonstrates:

Tasmanians will have a world-class education, training and information system which matches the best anywhere. We will achieve this through: An information-rich community with access to global and local resources so that everyone has the opportunity to participate in, and contribute to, a healthy democracy and a prosperous society (Department of Education (Tasmania) 2001: 1).

Learning in an online world (EdNA 2000) suggests that the promised transformations are necessary, moving schools from ‘industrial age paradigms and values to those more appropriate to leading the creation of wealth and growth of a knowledge society in Australia’ (EdNA 2000: 10).

The efficiency claims and benefits to productivity of the ‘knowledge economy’ however, remain debatable. Joseph Stiglitz, in 1999 (when Senior Vice-
President and Chief Economist of the World Bank) stated that ‘standard economic theory has little to say about the efficiency of the knowledge based economy’ (in Lamberton 2000: 6). Lamberton (2000) has asked ‘how is it that the world over, enormous sums have been invested in computerization and yet we have not managed to detect measurable impact on labour productivity?’ (Lamberton 2000: 2). Wise (2000) argues that by highlighting ‘the value of information to national economies and society in general, the information theory of value has been effective in persuading governments to institute policies for the benefit of the computer and media industries in particular’ (Wise 2000: 189). Indeed in Australia, schooling sector policies are viewed by local companies and parent multinationals as important signals for the sale of computers, software and services to the sector. It is a myth then, to suggest that digital technologies in themselves represent a revolution; rather the dominant economic interests of the owners of the capital, continue to be reinforced.

Determinism or democracy?
Democracy includes the view that people should participate in decisions that will shape their future. Digital technologies are a part of the lives of Australian communities and are used in undertaking, work, study and life in general. Yet, the language of technological determinism within policy documents portrays those in the schooling sector as passive and submissive users and consumers of digital technologies. Technological determinist language talks about the speed of the revolutionary changes that are to transform schooling and society more generally. These changes are presented as already happening, true and largely unproblematic. Technologically determinist language sees the author able to abdicate the power and control that humans can exercise over the use of digital technologies. This control to determine futures including digital technologies within schooling is largely being left to the market to decide.

Teachers and students are being constructed as passive ‘users’ of technologies rather than also being the creators of technologies. Assumptions are made in policy texts that transformations to schooling are inevitable and will be good. Strategies to make the transformations happen however, require human will. It is argued here that this should occur with a commitment to democratic principles in schooling, and that face-to-face relationships continue to be important in educative processes.

Schools have been places where democratic values of a society have been taught. Past meanings of public schooling have included a definition of democracy where young people are taught how to contribute to a common good. The physical places called ‘schools’ have been places where young people have shared common experiences and undertaken the social, emotional and ethical development required in order to participate in society. With the primacy of markets in schooling, democracy is being redefined to an interpretation that means individuals have an equal freedom to choose
products and services within a market economy, with economic and social self-interest being placed on the high moral ground (Marginson 1997). Furthermore, access to cyberspace is a physical materiality. Without the necessary infrastructure, schooling is not equally accessible to all.

Missing from many of the policy texts is the recognition that to enable students to learn to create and use digital technologies requires teachers’ guidance. Future meanings of public schooling require the stated recognition that teachers will continue to hold an important place in the provision of public schooling.

What Can Be Done?
While there are problems inherent in the policies advocating the use of digital technologies in schooling, digital technologies are emerging as daily realities with which educators have to deal. The complexities of providing access to and teaching students with and about technologies, are issues with which teachers, schools and schooling systems are currently wrestling. There are no ultimate truths or ‘right’ answers to the dilemmas however; indeed we are still identifying the questions to ask. But we can learn from our past experiences and in the future, we can work from principled positions.

One major dilemma governments do have to face immediately however, is the question of whether it is wise to maintain the status quo concerning the current procurement arrangements of digital technologies. These commodities require substantial recurrent funding. For example, it is predicted that nationally the costs to schooling of Microsoft licences alone is in excess of $30 million annually (Moyle 2003b). These funds are forwarded directly from the public purse to the private sector simply for the purchase of a commodity without any additional benefits. An alternative is to find longer term, more cost efficient and more democratic strategies for the provision of some of these goods and services.

Alternative stories have to be authored that see digital technologies furthering the democratic purposes of schooling. These will have to be counter-hegemonic stories: they will be long, and will have to be sustained over time. The stories have to start today. There is much to be done. Arising from the discussion in this paper then, a suggestion to start the conversations, follows.

A conversation-starter:
The language in State and school policies could be changed to structure schooling systems, teachers and students as not only ‘users’ but also ‘creators’ of digital technologies and of their applications. Simply changing the language so that teachers and students are ‘creators’, would structure them into positions of power in relation to the construction and use of digital technologies in schooling. It would generate changes in people’s world-views about digital technologies. Such changes to the language in policies, would
then require strategies to be determined to enable such changes to happen. Strategies to implement policies could be through the curriculum, teaching and learning, through the management and administration of (for example) procurements at State and school levels, or through all these mechanisms. Such changes however will require conversations, and these discussions should focus on how to move from the policy rhetoric to ensuring the democratic control of digital technologies in schooling.

Conclusion
The purpose of this paper has been to propose some understandings of current Australian schooling sector digital technologies policies. As policies advocating the use of digital technologies in government schools are promoted by all public school education systems in Australia, it has been argued that public conversations about how to foster the democratic control of digital technologies in schooling are urgently required. It has been proposed that a simple way to start this process is to change the determinist language we use to talk about digital technologies. Changes to policy however, require further conversations: so let the conversations continue.

References
Department of Education, Training and Employment (South Australia) (1999) Administrative instructions and guidelines, South Australia: Government of South Australia


March 4).


