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## Introduction

*“In order to develop educationally sound use of any technology we must attend to all the elements – the operational (how to do it), the cultural (what are the practices and stories we tell ourselves about using it) and the critical (asking questions about the assumptions and taken for granted aspects of the technology)” (Bigum, 1995: 12).*

For some decades now Australian school education ICT policies have proposed a vision for the future – a future where ICT is readily positioned as driving change to school education and where ‘techno-savvy’ learners are ready and willing participants in this vision. But what of teachers in this vision? How are they represented in school education ICT policy? How does this compare to the way ICT and learners are represented?

Policies are a means by which organizations, including governments, set out a preferred vision for the future (Lloyd, 2008). Policies lay out the desired destination, often using a rationale to convince us this is the case, and then proceed to chart or suggest the roads we should then take to reach that destination. Policies are forward thinking documents, rather than statements of the current state of play (Moyle, 2005). They are also official voices presenting as they do the authoritative or sanctioned views of signatories. It is important for us to carefully read policy – to not only see what is included and omitted, but also what is emphasized or given a mention in passing. Above all, we need to be sure that the proposed destination is one we want and that the suggested road we follow is one that we wish to take.

In this paper I am mainly interested in the way that teachers are represented in school education ICT policy. While I also look at the ways that ICT and learners are represented, I do so mainly as a comparison. In my discussion I draw on the national goals for schooling policies, particularly the Adelaide Declaration (1999) as it specifies a goal in relation to learners and ICT. I pay particular attention to the *Learning in an online world* suite of initiatives produced in response to this goal. I also focus on the more recent *Digital education revolution* policy (Rudd, Smith and Conroy, 2007), written as an election policy, now currently being implemented. I organize my discussion around key themes that emerge from my reading of these policies. This thematic discussion begins with teachers, then learners and then ICT.

## TEACHER ICT SKILLS, COMPETENCY STANDARDS AND PROFESSIONAL DEVELOPMENT

Teachers are often represented in school education ICT policies as needing ICT skills. This need is always aligned to learners and more often than not also includes either or both these rationales: that by using ICT, learners will gain learning benefits and will be better prepared for the high-tech jobs of the future. According to numerous writers including Bigum (1997, 1998), and Bigum and Kenway (1998), these are the two most commonly used rationales for using ICT in school settings.

The following example from the initial *Learning in an online world policy* (EdNA 2000) illustrates this representation. Produced in 2000 as an overarching framework, this policy sets out a “shared national vision” (EdNA 2000: 2), and together with a series of strategies and statements (commonly referred to as the ‘Learning in an online world suite’) was developed to support the achievement of the ICT-related goal in the national goals. *The national goals for schooling* provide a vision for school education in Australia, and are set by state and territory and Australian Ministers of Education, usually in response to perceived ‘complexities’ and ‘challenges’ that the ministers believe require united action. In July 2009, this committee was renamed to the Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEEDYA). This goal, Goal 1.6, set in Adelaide (MCEETYA 1999), states that when

students leave school they should be “confident, creative and productive users of new technologies, particularly information and communication technologies, and understand the impact of those technologies on society” (MCEETYA 1999: 2). In this policy, there are five action areas, each with a number of goals and strategies. The ‘People’ action area is most relevant to this discussion, as it includes a goal relating to teachers, specifically for “All teachers to be competent users of information and communication technologies and able to apply these technologies to improve student learning” (EdNA 2000: 5).

In the discussion which follows, the latter part of the goal relating to teacher application of ICT for student learning is discussed first. Perhaps though, this emphasis on learners is understandable, given that learners are the focus of the national goal relating to ICT. The policy hints that teachers have perhaps been ‘slow’ in their uptake of ICT, by statements that teachers need to be “committed to a vision for the integration of new technologies into practice” and to have “the skills to use the technologies appropriately and effectively” (EdNA 2000: 5). The tone is suggestive that perhaps teachers have been somewhat lacking in their commitment and skills. This suggestion is made more explicit in the subsequent discussion about the large number of teachers who while they may have developed some ICT skills have not embedded them into the classroom:

“Progress is taking place, but not at the pace or depth required to effect major change. Teachers are developing basic ICT skills, but the main challenge of integrating new technologies into teaching practice still lies ahead for the bulk of the profession. School leaders need to recognize where teachers are along the spectrum of adoption of technologies and address their needs in practical, progressive ways.” (EdNA 2000: 5).

Methods to facilitate and improve teacher ‘up-skilling’ have largely remained constant in the policies canvassed in this paper. Commonly professional development is advocated, such as in relation to the second part of the teacher goal in the initial *Learning in an online world* policy (EdNA 2000). Similarly professional development is suggested in ministerial statements. From time to time, state and territory and Australian Ministers of Education, meeting as MCEEDYA, have released statements specifically relating to school education and ICT. All three ministerial statements canvassed in this paper (MCEETYA 2000, MCEETYA 2005c, AICTEC 2008) discuss the need to support or assist teachers to develop ICT skills. While this continued advocacy for teacher professional development can be seen as recognizing the importance and value of professional development to the profession, particularly in relation to ICT, perhaps also one could interpret this continued advocacy, as further suggesting that teachers are being slow to develop their ICT skills, and the attainment of the national goal. I am also concerned that while professional development is considered a priority, including in the initial *Learning in an online world* policy (EdNA 2000) and subsequent, *Contemporary learning* statement, (MCEETYA 2005a), the number of policies relating to other priorities of content and bandwidth could indicate otherwise.

This suggestion of teacher slowness in developing ICT skills is also evident in other policies, such as the *Contemporary learning* (MCEETYA 2005a) statement. This statement produced in 2000 superseded the *Learning in an online world* action plan as the overarching policy. This statement likewise identified five action areas, similar to those in the initial action plan, and also included one relating to ‘People’. Whereas the initial policy suggests strategies for teachers to increase their ICT skills in terms of ‘introduce’, ‘develop’ and ‘strengthen’, this later policy uses the wording ‘depends on’ (MCEETYA 2005a: 7). It then goes on to list some of these dependencies including pedagogical knowledge and skills, and understanding of ICT, knowledge of ICT, and proficiency in use of ICT. Similarly, the *Digital education revolution plan* (DEEWR 2008) suggests that while efforts have been made “progress to date has been impressive, but uneven. Most teachers and students now benefit in some way from access to computers and digital resources, but still only a minority are reaping the full benefits of the information technology revolution” (DEEWR 2008: 3).

Often as well, methods to facilitate teacher ICT skill development involve advocacy of competency standards in relation to ICT. Developing a set of competencies can be valuable however I am concerned that an over-emphasis on competencies and standards could be at the expense of authentic and critical considerations.

While teachers are positioned as requiring skilling, this is not the case with learners. In the policies canvassed in this paper, learners are readily positioned as having a “disposition to ICT” (MCEETYA 2005b: 8) and this assertion usually goes hand-in-hand with the following justification, that learners are growing up in a highly technology world and are therefore ‘insiders’ to this world. Statements such as this one from the *Contemporary learning* policy are indicative of this positioning: “From birth, students of the current generation inhabit and navigate a highly technological and information rich world” (MCEETYA 2005a: 4). Implicitly then, teachers by virtue of age are positioned as ‘outsiders’ to this world. All too easily then teachers can be used as scapegoats when presumed outcomes by the digitally savvy young are not realized. This is suggested in the following statement in the *Melbourne Declaration* that teachers “should take advantage of this increased motivation to achieve more equitable educational outcomes for all” (MCEETYA 2008: 1).

### **TEACHER ICT PEDAGOGIES, REALIZING STUDENT LEARNING AND BEING EMPOWERED BY ICT**

In the policies included in this paper, teachers are often represented as having an important role in student learning in relation to ICT. Yet often this role seems to be represented as a simple and straightforward one, to employ ICT in the classroom. Connected to this representation, is the view of the teacher as ‘the vehicle’, the view of ICT as intrinsically transforming learning, and of learners as willing users of ICT. For example in the *Pedagogy strategy* part of the *Learning in an online world* suite, released in 2005 (MCEETYA 2005b) we are informed that particular pedagogies used by teachers “will determine the extent to which the possibilities offered by technology are realized in educational settings” (MCEETYA 2005b: 3). Likewise in the *Ministerial Statement* of 2008, we are told that “educators will enhance twenty first century student learning outcomes by effectively and ethically incorporating ICT into their teaching and learning programmes and methods and collaborating in the creation of flexible learning environments” (MCEETYA 2008: 1). Views of learning that recognize the complex relationship involving learners, teachers and ICT are rare in these policies. I am also concerned that placing such an emphasis on the teacher can result in the teacher being too readily blamed when desired outcomes of ICT enabled learning are not realized.

Often this representation of the teacher as ‘the vehicle’ of ICT learning also involves the notion of the teacher as being empowered by ICT. For example in the 2005 *Ministerial Statement* the following statement is made, “Information and communications technology empowers teachers and trainers by increasing options for improving learning outcomes through access to new types of quality digital content, training, networking and advice” (MCEETYA 2005c: 1). Other examples are particularly evident in the *Pedagogy strategy* (MCEETYA 2005b). This strategy puts forward six guiding principles for ICT pedagogy: Learner Focus, Educational Soundness, Professional Learning, Diversity, Alignment, and Collaboration. When describing each of these principles, the strategy uses the same ‘lead in’ phrase: “effective integration of ICT can transform pedagogies by empowering teachers to” (MCEETYA 2005b: 6-7). Often as well the tone is matter-of-fact. For example a series of headings is used in the *Pedagogy strategy* (MCEETYA 2005b) to illustrate ways that teachers use ICT pedagogies to enhance learning, including “to engage students in new dimensions” of learning, and to realize particular learning outcomes. Perceived benefits for learners are then listed as dot points, further enhancing the authoritative tone being presented.

### **LEARNERS AS ICT COMPETENT, TO BE SUCCESSFUL LEARNERS AND EMPLOYED**

The view that students need to be competent users of ICT has remained a constant one in policies canvassed in this paper. So too the reasons, that these skills are necessary for future work, and for

learning. Both these reasons are evident in the two goals for learners advocated in the initial *Learning in an online world policy* (EdNA 2000). The first being that, “All students will have access to educational programs that provide a technology-rich experience and environment for developing required skills and attitudes for lifelong learning.” And the second goal being that, “All students will leave school with the employment-related skills needed in the information economy and an increased percentage will commence pathways to employment in the ICT industries” (EdNA 2000: 5). The more recent *A digital education revolution* (Rudd et al. 2007) also emphasizes these perceived links of ICT to learning and to workplace. In relation to learning benefits, this policy states that “computers will enhance the learning experience of every high school student in the country (Rudd et al. 2007: 4) and this, that “students with better access to technology can receive a stronger education and achieve better academic performance” (Rudd et al. 2007: 5). It then elaborates this position by drawing on OECD data and student performance in math to argue that “the use of computers at school should, not be seen as recreational relief from studying, but instead as being crucial to helping students to learn,” (Rudd et al. 2007: 5). In relation to workplace benefits, the policy states that ICT is needed “to prepare them for the jobs of tomorrow” (Rudd et al. 2007: 1), for the “jobs of the future” (Rudd et al. 2007: 1), to enable learners to get “the best jobs and life opportunities in the future” (Rudd et al. 2007: 1) “to secure their future jobs” (Rudd et al. 2007: 5) and as “critical to well-paid jobs” (Rudd et al. 2007: 5).

In the subsequent *Melbourne Declaration* (MCEETYA 2008) perceived learning benefits have shifted away from notions of lifelong learning in the early policy, to notions of successful learning. Goal 2 states that “all young Australians become successful learners, confident and creative individuals, and active and informed citizens” (MCEETYA 2008: 7). This notion of being a successful learner is defined in relation to particular knowledge and skills including ICT: “Successful learners have the essential skills in literacy and numeracy and are creative and productive users of technology, especially ICT, as a foundation for success in all learning areas” (2008: 8). This link between ICT and successful learning is also made in several ministerial statements. In both the 2005 *Ministerial Statement* (MCEETYA 2005c) and 2008 *Ministerial Statement* (AICTEC 2008) learners are seen as needing ICT skills for lifelong learning.

Implicit in this representation of learners needing ICT skills (that teachers will technically facilitate) is the view that learners expect that ICT will be used in their learning. For example, the initial *Learning in an online world policy* states that “young people take readily to new technologies and to rapid technological change” (EdNA 2000: 5). And in the subsequent *Contemporary learning policy* (MCEETYA 2005a: 4) that they “take for granted that they can use interactive text, audio and image technologies to observe and participate in world events in real time.” And that “students demand interactivity in learning, communication, and entertainment.” The 2005 *Ministerial Statement* (MCEETYA 2005) similarly talks about learners positively embracing the use of ICT in their learning, through statements such as “students report that it is stimulating to work in a digital environment with improved access to quality educational resources” (MCEETYA 2005: 1) As this is immediately followed by a sentence beginning with “educators should take advantage of this increased motivation” there is a hint that teachers are perhaps not meeting this interest.

## **LEARNERS AS DIGITALLY SAVVY AND EXPECTANT**

While teachers have sometimes been presented as ‘slow’ on their uptake of ICT skills and uses in the classroom, this has not been the case with learners. Learners in the policies reviewed for this paper are consistently presented as being keen to take on ICT. Typically, policies begin by ‘setting the scene’: the world is described as undergoing mammoth change, including technological change (EdNA 2000, 2005a, 2005b). Learners are then described as ‘belonging’ to this world of constant change, as shown in this example, “Young people are growing up in a world characterized by rapid technological change and global communication” (EdNA 2000: 1). Learners are then often described as having an affinity with ICT – itself a key part of this change. For example, “Young people increasingly live and thrive in the digital environment, comfortable with virtual, screen-to-screen and face-to-face relationships. They take for granted that they can use interactive text, audio and image technologies” (2005a: 4). And this, “the current generation of students was born into a highly technological world. They inhabit, navigate and

communicate within a society which is both technologically-rich and information-rich.” (2005b: 3). Often as well, teachers are then positioned as needing to “take advantage of students’ disposition to ICT” (MCEETYA 2005: 8).

More recent policy documents have also inferred that students have an ‘expectation’ that ICT will be used in their schooling. Related to this, is the view that schools and teachers need to meet this expectation, as shown in this example, “Young people take readily to new technologies and to rapid technological change. The role of schools is to ensure that young people use technologies purposefully and critically and that they are able to continue to adapt and learn throughout their lives” (EdNA 2000: 5). A concern I have is that schools are being positioned as out-of-date and always needing to ‘play catch up’ – a view I suggest is very hard to overcome. Another concern I have is the implicit assumption that ‘technologies are technologies’ – there seems to be little acknowledgement that the ways that students commonly use ICT ‘out-of-school’ may not be synonymous with the ways required ‘in school’. Nor is there recognition that ICT’s can have different purposes.

## **ICT AS DRIVING WELCOMED CHANGE**

Positioning ICT as the driver of change is the most dominant way that ICT is positioned in the policies cited in this paper. Often this positioning is done in this way. First, policies ‘open’ by describing the world as a place undergoing mammoth change, including globalization and economic change and a tone of uncertainty for what lies ahead is set. For example in the preamble to the *Adelaide Declaration* (MCEETYA 1999: 1), mention is made of “challenges of our times” and an “increasingly complex world”. Likewise, the preamble of the *Melbourne Declaration* (MCEETYA 2008: 4) discusses “major changes in the world that are placing new demands on Australian education”.

Second, ICT is included in this picture of change. For example the *Melbourne Declaration* ((MCEETYA 2008: 5) describes this in the following way, “rapid and continuing advances in information and communication technologies (ICT) are changing the ways people share, use, develop and process information and technology.” Similarly, the 2005 *Ministerial Statement*, states that “new technologies are transforming our society; the way we work, our social and community life and the way we learn” (MCEETYA 2005c: 1). In earlier policies, ICT is often aligned to notions of the ‘information economy’ or ‘knowledge society’, such as in the initial *Learning in an online world* policy (EdNA 2000) and to notions of the ‘innovative society’ as described in the 2000 *Ministerial Statement* (MCEETYA 2000). Later policies, such as the *Melbourne Declaration* (MCEETYA 2008) and the *Contemporary learning strategy* (2005) tend to align ICT more with notions of ‘21<sup>st</sup> century’. For example in the latter policy, this notion of the 21<sup>st</sup> century is connected to education (MCEETYA 2005a: 2, MCEETYA 2005a: 12), to schooling (MCEETYA 2005a: 6) and to students (MCEETYA 2005a: 4). The Labor Party election policy (Rudd, et al. 2007) is aligned to notions of a ‘world calls education’. This phrase is used some three times on the first page, and twice on the third.

Third, ICT is then positioned as not only the means to meet these changes but also as the means to continue to ‘drive’ change in desired ways. This is illustrated in this example from the Labor election policy that, “Computers and broadband are shaping the 21<sup>st</sup> century. We need to ensure that Australian schools are able to provide students with the tools they will need to live and work in a world shaped by technological change” (Rudd et al. 2007: 3). Often this positioning is aligned to economic benefits. For example in the 2000 *Ministerial Statement*, one of the priorities is “ensuring that the education and training sector is able to provide all learners with opportunities to develop their ability to use technology confidently and creatively, and to develop the specialist skills needed to service the needs of the information economy” (MCEETYA 2000). The 2005 *Ministerial Statement* (MCEETYA 200c: 1) makes a similar representation that, “the everyday use of information and communications technology will transform education and training, and lay a foundation for our future economic and social prosperity”. In the Labor Party policy, ICT is also aligned with the workplace, particularly in regards to learners having ICT skills in order to gain future employment, as has been previously discussed. At the same time as ICT is being positioned as the desired means to meet these changes, teachers are then all too easily positioned

as the instruments of this change. That is, it is teachers who are then expected to ‘harness’ the capabilities intrinsic to ICT, and to capitalize on student interest in using ICT.

Positioning ICT as the driver of change, proliferates the policies included in this paper. Perhaps one of the clearest examples is in the DER strategic plan (DEEWR 2008) produced to implement the Labor Party election policy (Rudd et al. 2007). A table is used to represent three stages in implementation of the policy. The first column in this table is labeled ‘the current situation’, the second ‘suggested improvements’ and the third ‘aspirational suggestions’. Of the nine dot points included in the ‘current situation’ column, all relate to access, infrastructure and provision, and yet only one dot point does so in the last column relating to ‘suggested aspirations’. In this column, seven of the dot points relate to students, parents and teachers (in a range of combinations).

Indeed this determinist view of technology according to many influential writers underpins much of the ICT and school education literature generally. “Technological determinism asserts that educational outcomes derive primarily from the material characteristics of computer technologies, regardless of the intentions of teachers and schools (Bigum, 1997: 249). As many writers have argued for some time, including Bigum (1997, 1998), the main problem with determinist views of technology – is that technology is seen as driving change – and human agency is removed. Perceived changes are often seen as predetermined and universal and do not recognize the situatedness of using ICT. The assumption is that all contexts are the same and do not take account of the many other factors that can impact on use. All too easily, teachers can then be positioned as ‘at fault’ when these predetermined outcomes are not realized. Views of ICT that offer more of a realistic vision that “tells it like it is” (Selwyn 2002: 181) and that show the ‘messiness’ in using ICT (Bigum 1998) have been advocated for some time.

Selwyn (2002) argues that a realistic perspective is one that recognizes the influences of the technological, the educational and the cultural. In relation to the technological, he suggests we should acknowledge that technologies have shortcomings. As he elaborates, we need to recognize that there are few ‘type 2’ technologies that transform practice, as most technologies are ‘type 1’ technologies that enable us to do existing practices quicker and more efficiently. In relation to the educational, he suggests we need to weigh up the benefits and limitations of using technologies. In relation to the cultural he suggest we take more notice of the contexts in which we want to use technologies. As he goes on to comment, “pre-existing structures and attitudes that define many educational cultures often prove to be insurmountable obstacles to technological use taking place” (Selwyn 2002: 178), resulting in curriculum and classroom practices remaining the same.

## **ICT AS ENHANCING AND TRANSFORMING LEARNING**

The view that ICT will enhance student learning, is consistently advocated in the policies cited in this paper. One of the most common ways that this perception is put forward is by a matter-of-fact tone. The following example from the opening of the statement in the *Contemporary learning* policy (2005a), is typical of this tone: “21<sup>st</sup> century education integrates technologies, engaging students in ways not previously possible, creating new learning and teaching possibilities, enhancing achievement and extending interactions with local and global communities” (MCEETYA 2005a 2).

Another common way that this perception is put forward is by listing perceived benefits, often in the form of dot points. For example the *Contemporary learning* policy uses dot points to list ways that technologies create new opportunities for learning and later uses dot points to list ways that ICT enables improved learning. These gains in learning include relevance, extending learning, personalizing learning, giving more flexibility in time and place, supporting collaboration, improving access and participation in learning, and making learning more efficient. As a result, ICT is positioned as the means to realize predictable and universal learning benefits. At the same time, all school contexts are assumed to be the same and all learners as willing users of ICT. While I recognize that the function of policies as this one is to present a vision for the future, the lack of consideration of the complexities in using ICT is of concern.

While this notion of ‘enrichment’ and ‘enhancement’ has remained constant in the policies included in this paper, the characterization of ICT as transforming learning seems to have become more prominent in more recent policies. The tone however is similarly a matter-of-fact one, as shown in this example from the 2008 *Ministerial Statement* (AICTEC 2008: 1):

“Technologies are powerful tools for education and training. They are enabling the transformation of the curriculum and changing the way learners and educators operate, learn and interact. Technologies provide the potential to enable access to: nationally consistent curriculum’ collaborative communication and knowledge building tools’ flexible and distance learning opportunities; seamless transition of students and information within and between institutions; engaging learning materials; online services and repositories of knowledge.”

This notion of ICT as transforming learning, takes on more ‘revolutionary’ connotations in the Labor Party’s 2007 education policy. ICT is perceived as having revolutionary effects in relation to “classroom education” on some four occasions (Rudd et al. 2007: 1, 2, 5 and 10 ), as well as in relation to “the classroom” (Rudd et al. 2007: 3 ) and to “classroom learning” (Rudd et al. 2007: 3 ). While revolutionary claims are commonplace throughout this policy, there is little attempt to offer evidence in support. This lack of evidence has been raised in the broader research literature for some time.

More recently policies relating to benefits of ICT enabled learning focus more on the provision of personalized learning. This is shown in the following examples from the 2005 *Ministerial Statement*, that. “Information and communications technology in education and training promotes teaching and learning that is targeted to individual needs. It facilitates individualized pathways through education and training that match students’ interests, potential and lifestage.” (MCEETYA 2005c: 1).

In the policies canvassed in this paper, ‘current’ learning in schools is not explicitly described as ‘lacking’ or ‘in need of repair’. Yet, at the same time, future learning tied to ICT is explicitly positioned as ‘better’. In the main, learning is perceived as essentially a teacher directed process. As well learning is perceived as essentially a simple process, one where all that is needed is the tools (ICT empowered tools), the means (teachers), and the recipients, techno savvy learners. Only on a few occasions is a more interactive view of learning, one that involves teachers and learners and ICT put forward.

## **ICT AS POSSIBILITIES AND CHALLENGES**

Another key way that ICT is positioned in these policies is through the language of ‘possibilities’, ‘potential’ and ‘opportunities’. This language is particularly evident in two policies, the *Pedagogy strategy* (MCEETYA 2005b), and *A digital education revolution* policy (2007). For example in the *Pedagogy strategy* (MCEETYA 2005b: 9), ICT is described as providing teachers with “a new potential for their work as they exploit the opportunities that using ICT in learning provide. They engage with the possibilities created by the range of technologies.” It also describes possibilities for learners, in comments such as this one, that “Pedagogies that integrate information and communication technologies can engage students in ways not previously possible, enhance achievement, create new learning possibilities and extend interaction with local and global communities” (MCEETYA 2005b: 2). We also see this language in the “realising possibilities” section of this policy (2005: 8- 9). In this section teachers are urged to accept the challenge of using ICT productively by harnessing ‘opportunities’ afforded by ICT and student interest. These possibilities include creating new learning environments, making learning more efficient and effective, building depth, enhancing collaboration and communication, creating new communities, and expanding their pedagogies.

In *A digital education revolution* (Rudd, et al. 2007), the word ‘potential’ is used in relation to ICT on some four occasions, three times on the third page and once on the fifth. It is also used in relation to e-education twice, once on page one and later on page three. The following quotation is from the former:

“e-education applications are currently being developed at a frenetic pace. While the most innovative educational tools have probably not been thought of, few doubt the potential of computers and broadband to revolutionize the classroom. While e-education is in its infancy, the potential of computers and broadband is clear.”

Sometimes ICT is framed as both offering possibilities as well as challenges. For example in the 2000 *Ministerial Statement*, ICT is seen as offering ‘opportunities’ including being able to deliver services more efficiently, yet at the same time, as also offering challenges including exposure to global competition to deliver these services (MCEETYA 2000).

## Conclusion

The preferred vision for school education is set, it is a technologically determinist one in which ICT transforms the ways that teachers teach and learners learn. It is one where learners will reap learning benefits intrinsic to ICT and gain the knowledge and skills though using ICT for the imagined high-tech workplace. It is one where ICT-skilled teachers, empowered by ICT, will transform their pedagogies and realize this vision. It is a utopian vision often couched in terms of revolutionary claims for ICT or through the language of ‘potentials and possibilities’. This vision of the future – one shaped by ICT – is presented as unproblematic and inevitable. In this preferred vision there is little consideration of the complexities or the messiness involved in using ICT in school contexts. There is little acknowledgement of possible barriers to teacher uptake of ICT.

Learners are positioned as ‘insiders’ to this vision. Born into a high-tech age, learners are seen as having a disposition to ICT, readily using interactive text, audio and image technologies in their day-to-day lives. And because of this, learners have an expectation of using ICT in their learning.

The road described to reach this preferred vision is a singular one. There is no suggestion of bumps or potholes that may be necessary to navigate or alternative roads that could be taken. The role of the teacher is to steer learners along this road in order to reach the desired destination. To do this, teachers, ‘outsiders’ to this vision, must have ICT skills and be prepared to use ICT routinely in their practice. Thus far, teachers have been ‘slow’ to realize both.

The immediate challenge ahead for us then, is do we accept this preferred vision and do we wish to follow the road map to this vision that is set out for us?

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