

## 21<sup>st</sup> Century Learners: Changing Conceptions of Knowledge, Learning and the Child

Kate Hirschman<sup>a</sup> and Bronwyn E. Wood<sup>b</sup>

<sup>a</sup>Victoria University of Wellington

<sup>b</sup>School of Education, Victoria University of Wellington

*The term '21<sup>st</sup> century learner' emerged at the turn of the millennium and evoked a certain type of digitally-agile and self-driven learner. These ideas about 21<sup>st</sup> century learners have been widely and uncritically adopted in New Zealand policies and practices in recent years. This paper examines the origins and substance of this term against the backdrop of globalisation and Knowledge Economy discourses and emerging ideas of 'digital natives'. It considers the implications of these ideas on conceptualisations of the child, the development of deep learning, the impact on relationships between adults/teachers and students and on social equity. It concludes by suggesting that the term 21<sup>st</sup> century learner needs on-going critique if we want critical, informed citizens in our democracy.*

**Keywords:** 21<sup>st</sup> century learning, Knowledge Economy, globalisation, digital learners

### Introduction

The term '21<sup>st</sup> century learner' emerged at the turn of the millennium and evoked a certain type of learner – one who holds a suite of 'new' 21<sup>st</sup> century skills that are strongly connected to digital technology, digital communication, and notions of flexible approaches to knowledge. These shifts in notions of the 21<sup>st</sup> century learner have also led to changes in how we view the child – who now emerges as an autonomous, self-determining, 21<sup>st</sup> century learner and patriotic citizen. The 21<sup>st</sup> century learner has become in many ways a catch cry for the changes that some say are needed in schools to meet the demands of a rapidly changing globalised and digital society. Such changes require new ways of learning, new skills, new approaches to knowledge and new pedagogies.

Yet, while there is growing evidence of the adoption of 21<sup>st</sup> century learner notions in New Zealand curriculum and pedagogical policy and practice (see McPhail & Rata, 2016), we are concerned that its widespread, uncritical adoption and reproduction has meant that the notion of 21<sup>st</sup> century learners has become "resistant to the intellectual rigour it requires and deserves" (Bennett & Maton, 2010, p. 16). Bennett and Maton describe this as a 'certainty-complacency spiral' that results in giving credence and significance to an idea without critical evaluation or evidence. In this paper we re-examine the positioning of knowledge, learning and learners in light of the emerging discourses of the 21<sup>st</sup> century learner with the aim of seeking to understand the origins and adoption of such ideas within a global educational policy field, and through an analysis of associated key tropes (such as 'digital natives') that have been caught up in this discourse. We argue that interrogating these origins exposes the

weak premises upon which the '21<sup>st</sup> century learner' is constructed and the need to question its uncritical adoption into policy and practices in education.

We begin by introducing two specific conditions which led to the rise of the 21<sup>st</sup> century learner, namely globalisation and the Knowledge Economy. We then examine the case more specifically for Aotearoa, New Zealand which has its own 'brand' of 21<sup>st</sup> learner. In the final section we raise some critique considering the implications that arise as a result of how the 21<sup>st</sup> century learner is constructed and indicate some caution about the uncritical implementation of this term in New Zealand policy and schooling today.

## **Two conditions under which 21<sup>st</sup> century learning emerged**

There have been many key changes in education policy reforms since the late 1980s. One significant change has been to the environment in which policy is developed, shifting from national to post-national spaces (Rizvi & Lingard, 2009). Another is a shift in how knowledge is viewed and how schooling can contribute to economic efficiency and human capital production. These key changes have brought about significant impacts on education and, more broadly, society, and together have resulted in a fundamental shift in the way that policy is conceived throughout the world. In the following section we set out two specific conditions that have enabled the emergence of the 21<sup>st</sup> century learner.

### ***Globalisation***

At its greatest extreme, globalisation is the prediction of the end of national economies, and the formation of a borderless world (Green, 2006). Since the 1980s rapid rates of technological innovation have especially enhanced this formation through enabling the removal of communication barriers and giving rise to trade between geographically dispersed markets (Lauder, Young, Daniels, Balarin, & Lowe, 2012). As a result, countries now have access to global networks, and barriers to communication have been broken down (Green, 2006). Globalisation has impacted where people live, how they communicate, how countries strive for greater future economic growth, and most importantly, education. As society shifts, policy also shifts. Thus, the processes of globalisation have brought significant changes to the environment where public policy is developed.

Globalisation has had a part to play in both the re-framing of education as an individual rather than a collective good, and the emergence of a global policy field in education. Featuring also in this is a move from government to governance (Sellar & Lingard, 2013), where there has been a shift towards the privatisation of many once-public functions. This has led education systems to rely on market mechanisms and solutions as the answer to the state's more minimalist role in education (Rizvi & Lingard, 2009). This kind of a change in the environment in which education policy is formed, evaluated and implemented (Rizvi & Lingard, 2009) means that where policy was once developed in a solely national sphere, it is now affected by imperatives of the global economy due to globalising processes. As such, globalisation has led to education policy being formed in post-national spaces (Appadurai, 1996 as cited in Rizvi & Lingard, 2009). This shift has given rise to the emergence of the globalisation of capitalism (Ball, 1994) and neoliberal market capitalism (Bourdieu, 2003 as cited in Sellar & Lingard, 2013). The role of the state in education is still significant, but this role has become situated in a wider global context with the emergence of neoliberal ideologies (Ball, 1994). These processes in turn have led to questions about how knowledge is viewed, measured, and taught.

### ***The Knowledge Economy***

In 1996, the Organisation for Economic Cooperation and Development (OECD) published a report titled *The Knowledge-Based Economy*. In this they stated that “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” (p. 3). Employment in the Knowledge Economy was seen by the OECD (1996) as being characterised by increased demand for highly skilled workers which prompted the need for government policies to focus on upgrading their human capital. The argument was that in order to remain competitive for the needs of a global economy (Rizvi & Lingard, 2009), knowledge needed to become an economic commodity and “the primary source of all future economic growth” (Gilbert, 2005, p. 25). The Knowledge Economy assumed the presence of a global labour market in which all nations must compete (Friedman, 2005 as cited in Lauder et al., 2012). Success in this global market was based on innovation and knowledge (Lauder et al., 2012). It included a strong focus on digital technologies which would support and enable new forms of innovation and entrepreneurialism to emerge (OECD, 1996). As a result, a key purpose of education has been redefined in terms of human capital development.

The shift towards Knowledge Economies and a drive towards improved economic efficiency has also meant that countries now require a means to measure their human capital to profile how their citizens can contribute to an internationally competitive economy (Davies & Bansel, 2007; Lingard, Martino, & Rezai-Rashti, 2013). The OECD has played a key role here by developing internationally comparable indicators of skills and competencies for human capital. In 1999, using data from initial Programme for International Student Assessment (PISA) tests, a framework for the development of key competencies was compiled (Salganik, Rychen, Moser, & Konstant, 1999). These key competencies outlined skills and abilities that students should have in order for them to lead successful lives, and for a well-functioning society in the Knowledge Economy. The project, named the Definition and Selection of Competencies (DeSeCo) project, produced a framework of three broad categories, including the abilities to use tools interactively, interact in heterogeneous groups, and act autonomously (OECD, 2005).

The DeSeCo project provided one of many ways to measure human capital in a global age and thus a raft of subsequent forms of testing have emerged throughout the globe. As a result, rankings have become a “metapolicy” for many nations (Lingard et al., 2013, p. 540). International comparative testing makes a ‘flat world’ in which differences in culture, pedagogy, and assessment become reduced in order for hierarchies to be constructed to allow nations to make judgements against competitor nations (Lauder et al., 2012). This reduction in fundamental differences between education systems is a form of globalising empiricism (Torrance, 2006 as cited in Lauder et al., 2012). Global organisations facilitating this wide-scale measurement have “set up the statistical variables to determine what the ‘proper’ outcomes of education should be, and to produce a basis on which to judge ... progress towards the achievement of these normative targets” (Dale, 2005 p. 119). As a result, “comparison is now central to governance as it operates across multiple layers” (Sellar & Lingard, 2013, p. 716).

The global shift, as a result of the emergence of the Knowledge Economy (also referred to as the ‘Knowledge Society’ or ‘Knowledge Age’), towards the increased competitiveness of nations has had flow-on effects for countries’ overarching goal for education. The once primary goal has now shifted from equity in education towards economic efficiency. To produce improved human capital, the “knowledge, information, ideas, skills and health of

individuals" (Becker, 2006, p. 292) capable of achieving greater economic growth, it was seen that improvements to efficiency in education needed to be made. In this way, increases in economic productivity are seen to come not from investment in education, but from transforming education into a product that can be bought and sold like anything else (Davies & Bansel, 2007), such as dairy or livestock. As Peters (1999) states, "now there is nothing distinctive or special about education or health; they are services and products like any other, to be traded in the marketplace" (p. 2, cited in Davies & Bansel, 2007).

This in turn led some to question the role and purpose of traditional knowledge and education: "if we do want to be a knowledge society, we are going to have to change much of what we do in schools" (Gilbert, 2005, p. 3; see also Bull & Gilbert, 2012). As such, some see that educational policies, strategies and structures must be fundamentally overhauled to equip young people with new skills and competencies (Benade, Garner, Teschers, & Gibbins, 2014) that will allow them to "benefit from the emerging new forms of socialisation and to contribute actively to economic development under a system where the main asset is knowledge" (Ananiadou & Claro, 2009, p. 5). These skills are referred to by some as 21<sup>st</sup> century skills. Many recent educational reforms give at least equal weight to skills as they do knowledge in the form of subject content. This shift has been as a result of the perception that students must acquire certain dispositions, qualities, and skills in order to participate in modern, globalised economies (Lauder et al., 2012).

Both globalisation and Knowledge Economy discourses have perpetuated a neoliberal approach to education and have facilitated the emergence of the 21<sup>st</sup> century learner in order to meet the growing requirements for flexible, digitally-oriented workers for the global marketplace. Neoliberalism can be characterised by a transformation of the state from one responsible for human well-being and the economy to one that reconfigures people as being "productive economic entrepreneurs of their own lives" (Davies & Bansel, 2007, p. 248) – a theme which mirrors closely the discourse of the Knowledge Economy. As such, neoliberalism reframes labour and capital as being tied to the individual who is therefore responsible for deriving their own satisfaction and innovation (Lauder et al., 2012). Similarly, the processes of globalisation provide a global rather than national spatial sphere for the neoliberal, individualised global worker to emerge. Through this, education becomes the mechanism by which human capital is produced.

### **Conceptions of the 21<sup>st</sup> century learner**

On the back of the two neoliberal conditions of globalisation and the Knowledge Economy, new and very different conceptions of the learner have emerged. These conceptions frame learners as 21<sup>st</sup> century learners, highly autonomous and capable of using technology with ease. Proponents of the need for 21<sup>st</sup> century learners argue that as a result of the Knowledge Economy and a push to improve the economic potential of human capital, current traditional education systems need to change (Bull & Gilbert, 2012; Gilbert, 2005; Prensky, 2001). They argue that the current model within schools does not cater to current students' educational needs and there is a need to transition to a 21<sup>st</sup> century learning model in order to cater to 21<sup>st</sup> century learners (Bull & Gilbert, 2012). A closely associated idea is that there has been a change in the meaning of knowledge, where "people are increasingly thinking of knowledge as not a thing, developed and stored in people, but as a kind of energy, something that does things" (Gilbert, 2005, p. 75). Underpinning these ideas is that vast generational change has

occurred, and students think and learn in a fundamentally different way, and therefore schooling as we know it has to change.

These ideas have been accelerated further at a time when education is seemingly facing what has been termed an 'unknowable future' in a rapidly moving time of digitalisation (Benade, 2017) with the growth of Information Communication Technologies (ICT). The desire to develop more digitally-agile learners has been caught up with notions of 'digital natives'. The digital natives discourse emerged in the early 2000s, with regard to digital technologies and young people's digital predispositions, as a result of increasing technological innovation, a reduction of barriers to global trade, and increased social and digital connectivity in a networked society. Marc Prensky (2001), a leading proponent of these ideas, argues that because of this generation's technological upbringing, students "think and process information fundamentally differently" (p. 1) to those of other generations, to the extent that he states that students' brains have physically changed. He asserts that these students, termed 'digital natives', therefore learn differently due to predispositions towards multitasking and the use of technology as a means of communication (Prensky, 2001). These kinds of terms signify a change to conceptions of the learner and imply a "generational rupture" (Bennett & Maton, 2010, p. 49) that teachers are required to cross. Further, Prensky states that those outside of this generation are 'digital immigrants' who adapt to use this new technology but retain their old ways of thinking. Prensky believes that this has created a problem where teaching methods need to adapt and education must change radically in order to meet the needs of this new generation.

Critics of the ideas behind digital natives and 21<sup>st</sup> century learners, with whom we align ourselves, state that we must consider that young people's use of, and access to technology are not homogeneous (Bennett, Maton, & Kervin, 2008) and that there is "no evidence of widespread and universal disaffection, or of a distinctly different learning style the like of which has never been seen before" (Bennett et al., 2008, p. 783). Critics argue that the narratives of the existence of digital natives lack complexity and empirical evidence and overstate their abilities (Bennett et al., 2008; Buckingham, 2006; Ng, 2012). For example, research indicates that a proportion of young people remain who do not have the access or skills to meet the ideal of a population of digital natives (Bennett et al., 2008), even though there is evidence that students today have had more opportunities to engage with and explore technologies than those in previous generations, perhaps resulting in some of them being more comfortable with them (Ng, 2012).

However, despite this, it is not possible to make the generalisation that all young people in this generation are digital natives, and that crude linkages of digital expertise to any age or generation are an error. As such, "breadth of use, experience, self-efficacy and education are just as, if not more, important than age in explaining how people become digital natives" (Helsper & Eynon, 2010, p. 504). As Buckingham (2006) argues, while young people are described as being members of a distinctly digital generation, the idea of generational gaps is not new, and "typically emerges as a consequence of adults' fears about the escalating pace of social change" (p. 3). Generations are socially produced and defined and emerge as a result of passing time, and as a result of members defining the meanings of this group membership (Buckingham, 2006). As such, "the ease with which these commonsensical 'stories' of the digital native generation are being repeated and 're-told' should be cause for some alarm" (Selwyn, 2009, p. 366). Critics state that there is real danger that if these stories are taken at face value "then they can only provide an ill-informed and unrealistic basis for the formation of effective policymaking and practice" (p. 366).

Unbalanced views can lead to moral panics. The call for fundamental change in education by Prensky (2001), where students have been described as being disappointed, dissatisfied, and disengaged by the current education system and the subsequent response, can be classified as a moral panic. The types of responses are exemplified in a statement by Prensky (2001) that we are at risk of failing a generation and our educational institutions will soon become obsolete. This statement of profound change, seen frequently by proponents of the digital natives' rhetoric, contains the dramatic language and stark generational differences that characterise a moral panic as set out by Stanley Cohen (2002). It is our critique that an objective viewpoint must be maintained regarding what may appear to be a substantial transformation but may be no more than a moral panic centred around over-inflated generational differences.

One further critique in this area relates to how notions of 21<sup>st</sup> century digital native learners impact on approaches to knowledge. A number of authors suggest that the 21<sup>st</sup> century learner discourses have inflated the capabilities and knowledge of students and undermined the social differentiation of knowledge and how knowledge is developed and constructed within epistemic boundaries through time (Young & Muller, 2010). In the absence of understanding this, knowledge appears to be generic, and held open to any learner who could learn the processes (and competencies) of learning – in the absence of an expert or an associated body of learning.

Employing these ideas, Young and Muller (2010) propose three future scenarios for education with regards to knowledge and learners. *Future 1* represents a future where boundaries are fixed and the concept of knowledge is under-socialised and held in the hands of an elite few. *Future 1* represents an effort to continue the system of education for the elite, as such, perpetuating social inequalities, dividedness and conflict. *Future 2* represents the end of boundaries and an over-socialised concept of knowledge in which all have access and is associated with current trends towards learner-directed and student-centred learning and teaching as facilitation rather than directive teaching. Boundaries, such as those between disciplines and subjects, are weakened, along with those between school and everyday knowledge. *Future 2* is in direct opposition to *Future 1*, where the removal of boundaries is seen by some as a condition for greater social justice as proponents suggest that access to information (through ICTs) will have an equalising effect in society. While appearing as polarities, *Future 1* and *Future 2* both lead to an instrumental view of knowledge and rest upon weak understandings of both knowledge and learning. Therefore, one further position is needed – *Future 3* – whereby knowledge is seen as differentiated and concepts, skills and content are all of importance, rather than a focus on only content (*Future 1*) or only skills (*Future 2*). *Future 3* allows for increasingly equalised epistemological access to knowledge and its emphasis on boundaries between domain-specific knowledge work as a basis for the production and acquisition of new knowledge. As such, *Future 3* has positive implications for both social justice and the “viability of a knowledge-based economy in the future” (p. 23). In the following section we will examine the application of these ideas in the New Zealand context.

### **The New Zealand context**

In New Zealand there were a number of factors that led to the emergence of 21<sup>st</sup> century learning and learners which have also reflected the growing role of the OECD in shaping education policy since their initial 1996 Knowledge-Based Economy report. New Zealand

rapidly adopted these ideas, producing its own *Knowledge Economy Report* (Information Technology Advisory Group, 1999). In 2004, New Zealand also adopted key competency groups based on the OECD's DeSeCo project (Rutherford, 2004) and these were integrated into the New Zealand Curriculum (Ministry of Education, 2007) and promoted a much stronger focus on knowing *how* rather than knowing *what*.

Key to implementing these ideas in New Zealand was Jane Gilbert, an educational researcher, who became a key proponent of these changing conceptions of the learner, and the need for new ways of approaching learning. In her book, *Catching the Knowledge Wave: The knowledge society and the future of education* (2005), she drew heavily on the Knowledge Economy and 21<sup>st</sup> century learning ideas, underpinned by ideas of equality in education. Contrasting ideas associated with the 'Knowledge age' in opposition to the 'Industrial age', a new type of learner was desired, as described on a New Zealand Council for Educational Research [NZCER] website (where Gilbert was based at the time):

Today's schools are organized to produce Industrial Age worker-citizens. If schools are to prepare young people for successful lives in the 21<sup>st</sup> century, they need to do things differently. 21<sup>st</sup> century schools need to develop different skills and dispositions from those that were required in the 20th century. (NZCER, 2009)

Gilbert (2005) states that in this approach:

Knowledge will continue to matter, but not necessarily in the same way it might have in the past ... we should be presenting knowledge to students not as something monolithic, fixed and finished, but as something organic, something that is always developing and always in process. (p. 175)

She warned that:

If we reject the new capitalism and the new models of knowledge, or simply fail to engage with them, it is highly likely that more and more people will begin to see schools as irrelevant and peripheral to the concerns of the real world. Public education as we know it will be sidelined and eventually abolished. (p. 42)

While Gilbert had some cautionary notes regarding the implementation of these ideas (see Bolstad, Gilbert, Vaughan, Darr, & Cooper, 2006; Gilbert, 2005), these were largely ignored and her work was adopted widely by the Ministry of Education to justify changes to the New Zealand Curriculum in 2007 (Ministry of Education, 2007). The imperative for dramatic educational changes was also caught up in the timing of the millennium, the advent of a new curriculum and promotion by technology companies that were keen to maximise the perceived advantages of digital learning for their own gain (see Singer, 2017, on Google classrooms). Subsequently, the term 21<sup>st</sup> century learner has become widely used within New Zealand education without much scholarly critique. In the following section we examine how these ideas have been adopted and used to justify a plethora of changes in curriculum policy, building design, and teaching roles and practices in New Zealand in recent years.

The New Zealand Curriculum represents 21<sup>st</sup> century learning ideals, particularly in the way that it frames learners, as a result of the widespread adoption of notions of 21<sup>st</sup> century learners, and learners as digital natives. For example, in the New Zealand Curriculum review, Gilbert was cited as a main resource for more information regarding 'future-oriented teaching

and learning' (Ministry of Education, 2012). In this review, knowledge is referred to as "dynamic and ... it comes into being "just in time" to solve specific problems as they emerge" (Ministry of Education, 2012, p. 4). This representation of the core ideas regarding knowledge closely resembles the *Future 2* thinking presented by Young and Muller (2010), and as such denies the worth of expert knowledge by weakening boundaries between subjects and knowledge fields, as well as between school and everyday knowledge. Thus, Young and Muller (2010) state that this future would "render the contours of knowledge and learning invisible to the very learners that the pedagogy was designed to favour" (p. 19). This is epitomised by the way that 21<sup>st</sup> century learning organises learning through a 'real world' inter-disciplinary structure that results in the removal of integrity of contributing disciplines (McPhail & Rata, 2016) and encourages the integration of curriculum areas.

In recent years these changes have also seen New Zealand education rapidly and uncritically adopt changes to school building design and digital technologies through innovative or modern learning environments, learner-centred pedagogies, and the expansion and growth of technology in line with the perceived changes of this 'digital generation'. Epitomising these changes is a statement, in New Zealand's new digital technologies content in the New Zealand Curriculum and hangarau matihiko content in Te Marautanga o Aotearoa, that young people are "already 'digital natives', born into an age where computers, mobile devices and the Internet are so familiar they cannot imagine life without them" (Ministry of Education, 2017, p. 1).

Following the OECD (2008), New Zealand saw the implementation of policy, architecture, and pedagogy to support innovative learning environments in order to establish a "21<sup>st</sup> century learning system with high quality, relevant learning environments" (Ministry of Education, 2013, p. 28). These new learning environments are seen by some to entrench the neoliberal focus on the individual at the expense of society (O'Neill, 2015), and "perpetuate the discourses of market relations and global competitiveness" (Morrison & Kedian, 2017, p. 1). Further, the Ministry of Education's (2016) own report on the impact of design on student outcomes talks about lighting, heating, ventilation, and acoustics but stunningly fails to produce any evidence for improvements in student achievement. However, it has been argued that these learning environments represent a shift away from a system that prioritises the preparation of students for the marketplace; rather, they prepare individuals for life (Morrison & Kedian, 2017).

New and contested learning environments have had an impact on the role of teachers. The role of teachers in New Zealand education is changing as a result of 21<sup>st</sup> century learning notions, and new learning environments. Gilbert (2005) discusses how teachers will no longer be knowledge providers or supervisors but instead will be "learning managers" (p. 142). This idea is epitomised in the previous government's Ministry of Education (2015) document *New Zealand Education in 2025* which views the future of education as a "highly connected, interdependent education system that equips students with skills for the future ... and prepares students to participate as successful citizens in the 21<sup>st</sup> century" (p. 1). A main feature of this proposed future is the change in the role of teachers, who are pictured as becoming 'primary learning mentors' who "work with groups of learners to set goals, [and] give advice about learning pathways" (p. 1), working alongside 'pedagogical specialists' who lead teams of learning mentors.

All of these shifts have had a dramatic impact on schooling, teachers and students. We examine some of the implications of this 21<sup>st</sup> century thinking in the following section.



## **Implications of 21<sup>st</sup> century learning discourses**

Current and future changes in education as a result of the neoliberal conditions of globalisation and the Knowledge Economy have far-reaching implications for many groups within society. In particular, there are important implications for conceptions of the child, social equity, the role of schools and teachers, and the future of democracy which will be examined in turn.

### ***The child***

Emerging 21<sup>st</sup> century learner discourses have had a significant impact on the conceptions and construction of the child in both education and the wider society. While prevailing views may see children as vulnerable minds (Sonu & Benson, 2016), we are beginning to see the emergence of a new conceptualisation of the child who is ready for the neoliberal future as a result of factors such as neoliberal governmentality and ICTs. Increasingly, children are seen instrumentally as becoming “the kind of knowledge workers needed in the economies of the future” (Gilbert, 2005, p. 201) while at the same time being strongly agentic and able to create their own future. The ‘tribal’ child, as presented by James, Jenks, and Prout (1998), of today is seen to be living in an adult world and is treated in these terms. The tribal child is “voluntaristic and particularistic; it exercises a strong sense of self-determinacy” (James et al., 1998, p. 216), especially in the area of being able to access knowledge and understandings (see digital natives discussion). Such notions of the child as tribal and autonomous underpin theories of 21<sup>st</sup> century learners and have contributed to student-centred and learner-driven pedagogies with the child seen as capable of determining and driving their own learning (Prensky, 2001). This type of learner is evoked in sharp contrast with more dependent learners of a former (industrial) age and relies on stark binaries. Buckingham (2000) cautions that there is a significant danger here of “simply replacing a view of children as easily impressionable and vulnerable to influence with an opposite view of them as somehow naturally autonomous and competent” (p. 4).

Against a backdrop of a more globalised and standardised education policy field, measurement, standardisation, benchmarks, and rankings have further enforced a uniformity of this child, thus creating a “universalised child ... that concretizes the child as a subject drawn into opposition with the adult, set forth by ideals crafted from the desires of the adult world” (Sonu & Benson, 2016, p. 244). This uniformity, while aimed at ensuring equitable outcomes for the universalised child, denies uniqueness and the result is, as Sonu and Benson argue, anything but equitable. In addition, viewing children as tribal overstates their separateness from adults, their agency and their ability to act/know autonomously (James et al., 1998).

### ***Social inequity and digital divides***

The 21<sup>st</sup> century learner discourse relies on an assumption that all learners, as digital natives, can access information equally and are fluent in technology use. Some claim that access to ICT will reduce social inequity: “Digital technologies have the potential to broaden and enhance access to information and communications ... to ameliorate the endemic problems of poverty in the developing world” (Norris, 2001, p. 6). However, while digital technology is ubiquitous, current research shows disparate patterns in young people’s access to and use of digital technologies have the potential to impact their future economic, academic, and health outcomes (Harris, Straker, & Pollock, 2017). This leads to a deep social inequity associated

with the concept of 'digital divides', which if ignored, poses a danger of perpetuating an already existing large gap between those young people who can use technology fluently, and those who cannot (Gilbert, 2005).

While there is no one widely used definition of digital divide, literature on digital divides has formed based upon inequity of access to technology (Adhikari, Mathrani, & Scogings, 2016). Broadly, three distinct forms of digital divide exist. The first is the *access* divide which was initially considered to be the only definition (Adhikari et al., 2016). The access divide is the division between those who have access to various forms of ICT and digital technologies, and those who do not (Adhikari et al., 2016). Socio-economic status (SES) is influential in determining digital access with young people of higher SES who have access to newer, smarter devices gaining greater autonomy and digital skill over those without (Hartnett, 2017). The second level digital divide is the *capability, use, or skill* divide. This divide focuses on both student and teacher capability and use of digital technologies (Starkey, Sylvester, & Johnstone, 2017): "merely offering access to ICT to individuals may not be sufficient to ensure that they will use the medium appropriately" (Hargattai, 2002 as cited in Adhikari et al., 2016, p. 236). From this we can see that the second divide is not bridged by the first access divide; as such, access does not equal skill. The third level of the digital divide is "between those who can and can't use digital technologies in powerful ways" (Wei et al., 2011 as cited in Starkey et al., 2017, p. 40). This involves inequalities in outcomes based on motivation, nature of usage, meaning making and knowledge (Adhikari et al., 2016). This third divide relies on a much deeper form of digital knowledge and is arguably the most important. Yet, our concern is that much of the rhetoric of the 21<sup>st</sup> century learner undermines the significance of deep knowledge and expert teachers which we discuss next.

### ***The role of schools and teachers***

There has been a shift in education, associated with 21<sup>st</sup> century learning, away from the paradigm of one, of single-cell, single classroom, single-teacher arrangement (Wright, 2017), towards 'learner-centred' pedagogies (Cardno, Tolmie, & Howse, 2017). The requirement of students learning specific knowledge is rapidly being replaced with the 21<sup>st</sup> century view that students must instead learn how to learn (Gilbert, 2005). However, others argue that learning must involve learning something, and that traditional knowledge should still have a place in a new Knowledge Economy (Lauder et al., 2012; Young & Muller, 2010). As such, Lauder et al. argue that education led by learner choice results in knowledge losing its authority. Knowledge now "appears to be used in an almost entirely rhetorical way; the meaning of knowledge is at best implicit and at worst virtually empty of content" (Lauder et al., 2012, p. 139).

A further consequence of learner-directed learning is that if the differences between everyday knowledge and powerful knowledge are blurred, a teacher's role may be "reduced to little more than facilitation and support" (Lauder et al., 2012, p. 141), or "learning managers" of "learning experiences" (Gilbert, 2005, p. 142). Yet, it is crucial to remember that no matter how powerful an experience may be, it is no basis for reliable knowledge (Lauder et al., 2012), and nor can it be the primary basis of a curriculum (Young & Muller, 2010). A lack of scaffolding from more knowledgeable adults means that while children have the capabilities to learn, students cannot construct their own learning as, using Foucault's phrase, "they can't know what they don't know" (Young & Muller, 2010, p. 16).

This brings the question of whether we want teachers to become 'primary learning mentors' (Ministry of Education, 2015b) as we move towards the future, or curriculum and

pedagogical experts. The first of these options is closely aligned with the ideas of *Future 2*, where knowledge is over-socialised, and boundaries between subjects and disciplines are weakened in order to “build new knowledge structures and rearrange existing knowledge” (King, 1993, p. 30), yet positions teachers weakly as ‘guides on the side’ of learners. The alternative seeks to maintain knowledge and its boundaries, as in *Future 3*, while conditions for the “creation and acquisition of new knowledge” (Young & Muller, 2010, p. 19) are encouraged and teachers are enhanced as sources of expertise and providers of deep knowledge for the whole of life.

### ***The future of democracy***

One final implication of 21<sup>st</sup> century learner discourses is what they render for the fabric of our democracy. In the Knowledge Age there are tensions between meeting the needs of the individual, and the needs of society to “prepare students to be civil citizens, or economic participants in society” (Gilbert, 2005, p. 151). Schooling’s civic purposes are long established, but the political and ideological interests that are embedded within conceptions of citizenship change over time, reflecting the societal and political interests of the time (Westheimer & Kahne, 2004). Conceptions of good citizenship imply conceptions of a good society (Westheimer & Kahne, 2004). As such, different priorities of citizenship “embody significantly different beliefs regarding the capacities and commitments that citizens need for democracy to flourish; and they carry significantly different implications for pedagogy, curriculum, evaluation and educational policy” (p. 263). In New Zealand, schooling’s current civic purposes are to produce citizens that “[are] to fully participate in economic, social and cultural life” (Ministry of Education, 2006, p. 21).

The Ministry of Education’s (2006) priorities exemplify the economic focus seen in globalised Knowledge Economies and present the conception of students as citizens who will further advance economic prosperity. They state that:

When New Zealanders succeed ... they can contribute fully to our economy and society. The kinds of knowledge, skills and competencies that enable people to succeed in a knowledge-based economy are increasingly similar to those that enable people to enjoy and contribute positively to their families and communities. (p. 21)

However, this kind of a vision of producing obedient, entrepreneurial and patriotic citizens is often at odds with democratic goals (Westheimer & Kahne, 2004). Further, Roberts (2009) argues that a new patriotism has emerged in New Zealand as a result of dominant neoliberal ideas that have been promoted simultaneously with the Knowledge Economy. Within this new patriotism there is a very narrow conception of citizenship, as presented by the Ministry of Education, where learners will, as a result of education, become “citizens of a particular kind” (Roberts, 2009, p. 11), who are self-managing citizen learners and citizen workers, but are rarely if ever encouraged to become critical or dissident citizens. The inequalities of digital divides are confounded further by democratic divides of access, participation and opportunity which are often masked by the 21<sup>st</sup> century rhetoric of equality of access.

## Discussion

The Knowledge Economy represents a time of change for societies. Technological innovations are changing the way that people communicate, work, learn, trade and do business. We have argued that the emergence of the 21<sup>st</sup> century learner has arrived on the back of the Knowledge Economy and globalising processes. In response to widespread panic about the state of education as it currently stands and notions of this generation of learners as digitally predisposed, new 21<sup>st</sup> century ways of thinking about learners and learning have been proposed that are in direct challenge to longstanding, highly significant thinking about education.

We have argued that education is sometimes fundamentally seen as a means to prepare students for their future as citizens. However, given the overwhelmingly neoliberal vision conveyed within the 21<sup>st</sup> century learner approach to education, the vision of future citizens is narrowly conceived as self-disciplined, motivated entrepreneurs who contribute positively and productively to the economy. Through a conception of the child as a 21<sup>st</sup> century learner, skills and dispositions are now given more weight than specialist or discipline-specific knowledge; students instead will be simply taught to be citizen-workers designed for the neoliberal global workplace (Roberts, 2009). The result of this may be, as predicted by Young and Muller (2010) in *Future 2*, that the special worth of experts and subject specific knowledge are denied, and experiential forms of knowing are more highly valued.

A further implication for how learning and learners are constructed relates to the relationship between teacher and student. The logic of the 21<sup>st</sup> century learner, built upon ideas of digital natives, relies on an exaggerated pace of social change and unsubstantiated generational differences – creating a rupture between younger and older members of society. We have argued this creates a gulf between teachers/adults and ‘tribal’ learners, thus overlooking the significance of intergenerational and relational aspects of pedagogy and agency and the deep differences that exist *within* one cohort of both children and adults. We have also suggested that claims about the capabilities of 21<sup>st</sup> century learners are unsubstantiated and serve to undermine the role and expertise of teachers. Furthermore, if teachers become facilitators of ‘real-life’ learning experiences and student-led learning, the next step may be the digitalisation of the profession. This threatens the deeply important relational work of teachers and renders a highly automated and impersonalised future of education. Tribal and neoliberal entrepreneurial conceptions of the child, who has the knowledge to direct their learning efficiently and effectively, may be placing too much responsibility in the hands of the child, and may actually create even greater educational and civic participation divides in society.

In sum, we argue that the 21<sup>st</sup> century learner is a term that needs considerable critique and further research. We are concerned at its uncritical adoption and the way it is used to justify considerable changes in policy, practice and in New Zealand classrooms. We have shown that the concept lacks intellectual rigour and is founded upon neoliberal ideologies and weak conceptions of learners and learning. We suggest that a healthy scepticism of this term must be encouraged if we are to have an education system that supports equity for all children and truly develops their potential to be critical, active and informed citizens.

## References

- Adhikari, J., Mathrani, A., & Scogings, C. (2016). Bring your own devices classroom: Exploring the issue of digital divide in the teaching and learning contexts. *Interactive Technology and Smart Education*, 13(4), 323–343. doi:10.1108/ITSE-04-2016-0007
- Ananiadou, K., & Claro, M. (2009). *21st century skills and competences for new millennium learners in OECD countries* (OECD Education Working Paper 41). Paris: OECD. doi:10.1787/218525261154
- Ball, S. (1994). *Education reform: A critical and post-structural approach*. Buckingham, UK: Open University Press.
- Becker, G. S. (2006). The age of human capital. In H. Lauder, P. Brown, J-A. Dillabough, & A. H. Halsey (Eds.), *Education, globalisation and social change* (pp. 292–294). Oxford, UK: Oxford University Press.
- Benade, L. (2017). *Being a teacher in the 21st century*. Singapore: Springer.
- Benade, L., Gardner, M., Teschers, C., & Gibbons, A. (2014). 21st-century learning in New Zealand: Leadership insights and perspectives. *Journal of Educational Leadership, Policy and Practice*, 29(2), 47–60.
- Bennett, S. J., & Maton, K. A. (2010). Beyond the ‘digital natives’ debate: Towards a more nuanced understanding of students’ technology experiences. *Journal of Computer Assisted Learning*, 26(5), 321–331. doi.org/10.1111/j.1365-2729.2010.00360.x
- Bennett, S., Maton, K., & Kervin, L. (2008). The ‘digital natives’ debate: A critical review of the evidence. *British Journal of Educational Technology*, 39(5), 775–786. doi.org/10.1111/j.1467-8535.2007.00793.x
- Bolstad, R., Gilbert, J., Vaughan, K., Darr, C., & Cooper, G. (2006). *Zooming in on learning in the digital age (ZILDA): Report 1: Zooming in on 'digital' age learners*. Wellington, NZ: New Zealand Council for Educational Research. Retrieved from <https://www.nzcer.org.nz/system/files/15016.pdf>
- Buckingham, D. (2000). Studying children's media cultures: A new agenda for cultural studies. In B. Van den Bergh & J. van den Bulck (Eds.), *Children and media: Multidisciplinary approaches* (pp. 49–66). Leuven: Garant.
- Bull, A., & Gilbert, J. (2012). *Swimming out of our depth? Leading learning in 21st century schools*. Wellington, NZ: New Zealand Council for Educational Research.
- Cardno, C., Tolmie, E., & Howse, J. (2017). New spaces-new pedagogies: Implementing personalised learning in primary school innovative learning environments. *Journal of Educational Leadership, Policy and Practice*, 32(1), 111–124.
- Cohen, S. (2002). *Folk devils and moral panics: The creation of the mods and the rockers*. New York: St Martins Press.
- Dale, R. (2005). Globalisation, knowledge economy and comparative education. *Comparative Education*, 41(2), 117–149. doi.org/10.1080/03050060500150906
- Davies, B., & Bansel, P. (2007). Neoliberalism and education. *International Journal of Qualitative Studies in Education*, 20(3), 247–259. doi.org/10.1080/09518390701281751
- Gilbert, J. (2005). *Catching the knowledge wave? The knowledge society and the future of education*. Wellington, NZ: New Zealand Council for Educational Research.
- Green, A. (2006). Education, globalisation, and the nation state. In H. Lauder, P. Brown, J-A. Dillabough & A. H. Halsey (Eds.), *Education, globalisation and social change* (pp. 192–197). Oxford, UK: Oxford University Press.

- Harris, C., Straker, L., & Pollock, C. (2017). A socioeconomic related 'digital divide' exists in how, not if, young people use computers. *PLoS ONE*, *12*(3), e0175011. doi.org/10.1371/journal.pone.0175011
- Hartnett, M. (2017). Differences in the digital home lives of young people in New Zealand. *British Journal of Educational Technology*, *48*(2), 642–652. doi:10.1111/bjet.12430
- Helsper, E. J., & Eynon, R. (2010). Digital natives: Where is the evidence? *British Educational Research Journal*, *36*(3), 503–520. doi:10.1080/01411920902989227
- Information Technology Advisory Group. (1999). *The Knowledge Economy*. Wellington: Crown.
- James, A., Jenks, C., & Prout, A. (1998). *Theorizing childhood*. Cambridge, UK: Polity Press.
- King, A. (1993). From sage on the sage to guide on the side. *College Teaching*, *41*(1), 30-35.
- Lauder, H., Young, M., Daniels, H., Balarin, M., & Lowe, J. (Eds.). (2012). *Educating for the knowledge economy? Critical perspectives*. New York: Routledge.
- Lingard, B., Martino, W., & Rezai-Rashti, G. (2013). Testing regimes, accountabilities and education policy: Commensurate global and national developments. *Journal of Education Policy*, *28*(5), 539–556, doi:10.1080/02680939.2013.820042
- McPhail, G., & Rata, E. (2016). Comparing curriculum types: 'Powerful knowledge' and '21st century learning'. *New Zealand Association for Research in Education*, *51*, 53–68. doi:10.1007/s40841-015-0025-9
- Ministry of Education. (2006). *Tertiary education strategy, 2007-12*. Wellington, NZ: Author.
- Ministry of Education. (2007). *The New Zealand curriculum*. Wellington, NZ: Learning Media.
- Ministry of Education. (2012). *New Zealand curriculum update* (Issue 26, October 2012). Wellington, NZ: Learning Media.
- Ministry of Education. (2013). *Statement of intent 2013–2018*. Wellington: Author. Retrieved from <https://www.education.govt.nz/assets/Documents/Ministry/Publications/Statements-of-intent/StatementOfIntent2013.pdf>
- Ministry of Education. (2015). *New Zealand education in 2025: Lifelong learners in a connected world* (Discussion Document). Retrieved from <https://www.education.govt.nz/assets/Documents/Ministry/Initiatives/Lifelonglearners.pdf>
- Ministry of Education. (2016). *Impact of physical design on student outcomes*. Retrieved from <https://www.education.govt.nz/assets/Documents/Primary-Secondary/Property/School-property-design/Flexible-learning-spaces/FLS-The-impact-of-physical-design-on-student-outcomes.pdf>
- Ministry of Education. (2017). *Digital technologies: Hangarau matihiko*. (Draft). Retrieved from <https://education.govt.nz/assets/Documents/Ministry/consultations/DT-consultation/DTCP1701-Digital-Technologies-Hangarau-Matihiko-ENG.pdf>
- Morrison, M., & Kedian, J. (2017). In the mi[d]st of policy enactment: Leading innovative learning environments (ILEs) in New Zealand schools. *Journal of Educational Leadership, Policy and Practice*, *32*(1), 1–6.
- New Zealand Council of Educational Research. (2009). *Shifting to 21st century thinking*. Retrieved from [http://www.shiftingthinking.org/?page\\_id=58](http://www.shiftingthinking.org/?page_id=58)
- Ng, W. (2012). Can we teach digital natives digital literacy? *Computers and Education*, *59*, 1065-1078. doi:10.1016/j.compedu.2012.04.016
- Norris, P. (2001). *Digital divide: Civic engagement, information poverty, and the internet worldwide*. Cambridge, UK: Cambridge University Press.

- O'Neill, A. (2015). The New Zealand experiment: Assessment-driven curriculum – Managing standards, competition and performance to strengthen governmentality. *Journal of Education Policy*, 30(6), 831–854. doi:10.1080/02680939.2015.1033766
- OECD. (1996). *The knowledge-based economy*. Paris: Author.
- OECD. (2005). *Definition and selection of key competencies: Executive summary*. Paris: Author.
- OECD. (2008). *Innovating to learn: Learning to innovate*. Retrieved from [https://read.oecd-ilibrary.org/education/innovating-to-learn-learning-to-innovate\\_9789264047983-en#page1](https://read.oecd-ilibrary.org/education/innovating-to-learn-learning-to-innovate_9789264047983-en#page1)
- Prezky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5). Retrieved from <http://www.marcpresky.com/writing/Prezky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf>
- Rizvi, F., & Lingard, B. (2009). *Globalizing education policy*. London: Routledge.
- Roberts, P. (2009). A new patriotism? Neoliberalism, citizenship and tertiary education in New Zealand. *Educational Philosophy and Theory*, 41(4), 411–423. doi.org/10.1111/j.1469-5812.2008.00437.x
- Rutherford, J. (2004). Key competencies in the New Zealand curriculum: A snapshot of consultation, December 2004 (Unpublished report). Wellington: Ministry of Education.
- Salganik, L. H., Rychen, S. R., Moser, U., & Konstant, J. W. (1999). *Projects on competencies in the OECD context: Analysis of theoretical and conceptual foundations*. Neuchatel: Swiss Federal Statistical Office.
- Sellar, S., & Lingard, B. (2013). The OECD and global governance in education. *Journal of Education Policy*, 28(5), 710–725. doi:10.1080/02680939.2013.779791
- Selwyn, N. (2009). The digital native: Myth and reality. *Aslib Proceedings*, 61(4), 364–379. doi.org/10.1108/00012530910973776
- Singer, N. (2017). *How google took over the classroom*. Retrieved from <https://www.nytimes.com/2017/05/13/technology/google-education-chromebooks-schools.html>
- Sonu, D., & Benson, J. (2016). The quasi-human child: How normative conceptions of childhood enabled neoliberal school reform in the United States. *Curriculum Inquiry*, 46(3), 230–247. doi:10.1080/03626784.2016.1168259
- Starkey, L., Sylvester, A., & Johnstone, D. (2017). Negotiating digital divides: Perspectives from the New Zealand schooling system. *Journal of Research on Technology in Education*, 49(1-2), 31–42. doi:10.1080/15391523.2017.1292161
- Westheimer, J., & Kahne, J. (2004). What kind of citizen? The politics of educating for democracy. *American Educational Research Journal*, 41(2), 237–269. doi.org/10.3102/00028312041002237
- Wright, N. (2017). Disrupting the “paradigm of one”: Restructuring structures to integrate learning in a modern learning environment. *Journal of Educational Leadership, Policy and Practice*, 32(1), 48–61.
- Young, M., & Muller, J. (2010). Three educational scenarios for the future: Lessons from the sociology of knowledge. *European Journal of Education*, 45(1), 11–27. doi.org/10.1111/j.1465-3435.2009.01413.x

**Kate Hirschman** is a student at Victoria University of Wellington and has interests in education policy, digital technologies, citizenship education, initial teacher education, and 21st century teaching and learning.

Email: [Katehirsch@hotmail.co.nz](mailto:Katehirsch@hotmail.co.nz)

ORCID ID: <https://orcid.org/0000-0001-5142-2033>

**Dr Bronwyn Wood** is a senior lecturer at Victoria University of Wellington. Her research interests centre on young people's citizenship education and practices and the impact of education policy on social equality in society.

Email: [Bronwyn.Wood@vuw.ac.nz](mailto:Bronwyn.Wood@vuw.ac.nz)

ORCID ID: <https://orcid.org/0000-0003-3560-2194>