

Searching for Utopia: What our education system must confront and what it could be

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A note on the title

the manner in which the machinery of instruction bears upon the child ... really controls the whole system.
– John Dewey (1902).¹

In 1995 David Tyack and Larry Cuban, academics at Stanford University, wrote *Tinkering Towards Utopia: A century of public school reform*. The book explores why, despite so many reform efforts over the years, little had changed in American education. Their conclusion was that most reforms did not touch what they termed the ‘grammar’ of schooling. Reforms ‘tinkered’ with elements of curriculum or pedagogy, but the underpinning structures of the schooling system – the design of the school year, the organisation of subjects, age-based cohorts, teachers as the primary personnel in schools, qualification systems – remained untouched.

Teachers, students, and perhaps most importantly parents, have been so socialised to these routines and structures that suggestions to change them are quickly dismissed, or if changes do occur, they remain on the fringe. As New Zealand enters a period of considerable and needed educational reform, questioning the balance between a focus on short-term tinkering versus longer-term structural change in education is more important than ever.

Introduction

As the world becomes increasingly complex, the expectations, both explicit and implicit, being placed on the schooling system are growing. Schools no longer just have to ensure that young people develop the academic knowledge and skills they require for success in future work, social and civil life (which themselves are substantially broader and more sophisticated than they previously have been). Increasingly, they are required to take over broad social functions, including supporting young people’s socio-emotional development, executive functioning, well-being and mental health. While the demands on schools are growing, the ‘machinery of instruction’ as Dewey described it,² has not substantially evolved to meet the changing demands being placed upon it and the changing needs of students. It is little wonder the schooling system is currently under such strain.

Current education reform tends to be incremental, largely focused on a ‘best practice’ approach,³ which rarely touches the underpinning structures of schools or schooling. This approach is based on the belief that improving schools and systems primarily involves learning from retrospective analysis of ‘what works’. Through this lens the challenge of reform becomes technical – how to scale these approaches and practices across the system so that everyone can benefit. While some of these initiatives do ‘work’, at least in some contexts, for some groups and for some period of time, they have not produced the desired system-wide improvement, in particular a substantial reduction of the persistent inequities that affect educational outcomes.

It would be wrong to entirely discount reform efforts that draw on well-evidenced and carefully implemented initiatives. They certainly have a place in educational improvement. Nor should we take away from the individual schools or initiatives that have made substantial progress in tackling educational inequities and driving student achievement. However, an additive approach to school improvement where new initiatives are tacked onto the existing system is unlikely to achieve the transformational change that is needed.

The recent lack of success in educational reform behooves us to reimagine the system itself.⁴ Central to any reimagining should be the examination of what Larry Cuban and David Tyack coined in 1995 as the ‘grammar of schooling’. Just as every language has a grammar, so too does the schooling system. Its shape and structure consists of the design of the school year, the organisation of the curriculum into certain subjects, the use of age-based cohorts, the positioning of teachers as the primary personnel in schools, and qualification systems. This grammar is, in most respects, so ingrained in how we imagine schools and schooling that it remains largely invisible, unquestioned, and consequently untouched in reform agendas. Any efforts to change aspects of the grammar of schools and schooling have remained on the fringes, constrained to individual schools or small-scale initiatives.

An examination of the history of schooling in New Zealand (and in most Anglo-Saxon countries) demonstrates the constancy of the grammar of schooling. While there have been changes to the prevailing ideology influencing educational policy and practice, and corresponding curriculum and pedagogical reforms, these have largely been done within the existing grammar. Exceptions to this include the widening of the curriculum to meet changing economic and social demands in the early twentieth century; the creation of the Correspondence School in the 1920s; the advent of compulsory secondary schooling in the 1940s; the raising of the school leaving age to 15 and then 16 years in 1944 and 1989 respectively; Tomorrow’s Schools; and the creation of a devolved schooling system.⁵ Aside from these variations, the grammar of New Zealand schools has remained fairly constant from the 1880s to today.

There is a growing gap between the design and structure of the schooling system and what is currently expected of schools. The social, political and economic contract has changed. Schools are being asked to educate our young people for a more complex and uncertain world, and they are increasingly the primary point of intervention for the growing challenges facing young people in society. Yet they are doing this with largely the same infrastructure they had 50 and in some cases 100 years ago. Such an observation does not mean that education reform should abandon everything that has gone before. Nor does it suggest that all of the current reform efforts underway in New Zealand education are ‘wrong’ or destined to be ineffective. Rather, it contends that if as a country we want all schools to fulfill their purpose of preparing young people for fulfilling and successful future lives, it is essential that we question whether their underpinning structures facilitate this.

A new world [dis]order

All aspects of life are being impacted by new technologies, sociological changes, economic and demographic shifts, and global challenges including environmental degradation and climate change. Educational reform efforts, to a great extent, have only paid lip service to these changes. The system has not responded to the pace of change and growing uncertainty, and education – and more particularly the people involved in education – are not insulated from their impact. Young people have been particularly affected by these and other changes, with increasing challenges of neurodiversity and challenges to socio-emotional and mental health. However, schools are largely having to address these changes and challenges within the constraints of outmoded structures and systems, and in a piecemeal, ad hoc and isolated way.

Demographic change, diversity, social cohesion and schools

Over the last 30 years, the diversity of New Zealand’s population has increased substantially in terms of ethnicity, culture, gender identities, religion, values, languages spoken, ages, sexual orientation and family structure. For example, over a quarter of people living in New Zealand were not born here,⁶ while the Growing Up in New Zealand Study has found that at two years of age, 40 percent of children in South Auckland understand two or more languages, while some children (seven percent) understand three or more.⁷

While this diversity brings richness to New Zealand society and schools, it also brings challenges. Schools, particularly in certain regions, are having to support a growing proportion of students for whom English is a second or additional language. They are also tasked with ensuring that all students feel supported and valued in their culture and beliefs. Research consistently finds a correlation between students' sense of belonging at school and social connectedness and educational outcomes.⁸ However, many students in New Zealand do not feel a sense of belonging. Only 68 percent of New Zealand secondary school students feel a sense of belonging (below the OECD average of 75 percent), while 21 percent of New Zealand respondents reported feeling lonely at school, and 22 percent felt like an outsider or were left out of things at school.

Challenges of belonging and social connection within schools mirror similar trends across society as a whole. While New Zealand's social cohesion has been described as relatively strong,⁹ as a country we are not immune to the impact of numerous local and global factors that threaten to weaken that cohesion.¹⁰ New Zealand faces unique challenges (and often opportunities) stemming from its bicultural foundations, its increasingly diverse and multicultural society, and the intensification of inequalities that has occurred over recent decades.¹¹ These are issues that all institutions, groups and increasingly individuals across New Zealand must address and manage. However, schools are the institutions that touch nearly every person in the country at some point in their lives, so they hold a special position in supporting social cohesion.

Anthropologists have identified the role that rituals (variously and broadly defined) play in social connections, group bonding and cooperation, across diverse contexts. Indeed, the ritual behaviours acquired in childhood often motivate loyalty to groups in adulthood, providing shared connection and understanding.¹² In a similar vein, evolutionary psychologists conceive of education, at its best, as a cultural process involving the development of shared knowledge and language, which is designed to preserve and improve social and cognitive gains.¹³ This aligns with an argument in education that suggests that a coherent, cumulative, shared-content curriculum not only improves student academic outcomes but also plays a critical role in building community, connection and collective knowledge within a society.¹⁴

It seems, therefore, that schools have a central role to play in developing a sense of belonging and a shared understanding and knowledge base within a society, and in doing so can positively contribute to social cohesion. The curriculum undoubtedly plays a central role in this. However, the question of how to balance common content and experiences with the opportunity for all students to see themselves reflected in the curriculum, and how to move between the local and universal, remains open.

Changing family dynamics

Alongside society more generally, New Zealand families are also becoming increasingly diverse. Children in New Zealand are much more likely to live with solo parents, blended families and families with two working parents (or adults) today than they were 60 years ago.¹⁵ Recent research exploring the experiences of 612 children from birth to age 15 found that only 40 percent of participating children lived with both parents in the same house.¹⁶ By age 15, less than half lived in a two-parent household and almost 44 percent were in either sole parent households or some form of multiple-residence care. Fifty-seven percent of participants had experienced at least one change in care arrangements during their lives, and only 20 percent of participants had lived their whole lives in households containing only nuclear family members; the median number of co-residents was seven. The median number of locations lived in by participants was six (range 1–27), which approximates to a shift in residence every two and a half years from birth to age 15. While living in intergenerational households or with extended family has long been a cultural norm for Māori and Pacific families,¹⁷ the household structure of many families is now determined not by preference but by the need to optimise material resources.¹⁸

Changing family dynamics and the level of change many children experience in their home lives over their childhoods have substantial implications for schools and schooling. New Zealand has one of the

highest rates of residential mobility among families of school-aged children in the OECD. Children who move schools frequently often experience greater social challenges, and high levels of transience can also affect the school environment and other children in the school.¹⁹ Research has found that students who frequently move home or school are more likely to underachieve at school compared with students who have a more stable school life, with a recent study determining that school movement has a greater effect on educational success than residential movement.²⁰ Supporting schools and putting in place systems to support high levels of student transiency is critical for minimising the impact on students.

Technological advances and economic change

Rapid technological advances are impacting all areas of life, from how we socialise to our mental health and wellbeing, the ways we engage with and consume information and entertainment, the nature and content of that content and entertainment, and increasingly, the world of work. The impact that digital technology, including AI, has had on education, and in particular school-level education, to date is in some ways minimal. While digital technology is much more of a feature in schools and classrooms than 20 or 30 years ago, the positive transformative impact of technology that some predicted has not eventuated.

Despite the somewhat more limited impact on education than some imagined or hoped for, it would be naïve to suggest that technological advancements are not impacting schools and schooling. Technological advancement has significant implications for what is taught in schools, including the new knowledge and skills that young people need to acquire (alongside more traditional knowledge and skills) to support them into the future. Furthermore, technology is increasingly employed in pedagogical approaches and as a common mode for learning. However, research suggests that technology is having mixed impacts on learning. The 2018 PISA study found most types of devices were negatively associated with PISA scores in New Zealand, even when controlling for student-level factors.²¹ The data further suggest that its role in learning is mediated by how the technology is used, by whom, how frequently, and for what purpose.

Research also indicates that engagement with technology is having a largely negative impact on children and young people across a range of factors. Device use, and in particular social media, is having a substantial impact on the mental health and well-being of young people and is shifting the ways they spend their time.²² American data has found the amount of time young people are spending with friends (in real life) has decreased considerably since 2003, with a particularly steep decline from 2017 as a result of the growth of time spent on devices.²³ Further, the proportion of young people who get less than seven hours of sleep most nights has risen significantly.²⁴ The growing evidence of a powerful connection between technology and mental health and well-being, and engagement, behaviour and outcomes at school means that schools are increasingly confronted with the need to provide additional support to their students. Schools are positioned as one of the primary intervention points for supporting children and young people's mental health and well-being needs. However, as is explored later in the report, this is putting additional strain on teachers and schools, which are not resourced or in many cases qualified to be providing the level of support required.

A growing body of research is identifying the long-term impacts of device use by young children. Higher amounts of screen time among children aged three years and younger is associated with poorer executive function, more sedentary behaviour in older childhood and poorer academic outcomes at school.²⁵ This is now thought to reflect a decreased quality of parent-caregiver interactions in a critical stage of brain development. In New Zealand, there is growing evidence linking device use in early childhood with weaker oral language skills.²⁶

Economic shifts are also impacting society and education. From 1990 to 2010, New Zealand experienced increasing economic inequality, which resulted in higher rates of poverty, food insecurity, inadequate housing, domestic violence, child mortality and youth suicide.²⁷ Socioeconomic status and educational

outcomes are closely connected, and New Zealand has greater disparity than many other countries.²⁸ In 2023, 12.5 percent of children lived in a household experiencing material hardship.²⁹ While this is a reduction from 2018 levels, the figure represents one in eight children in New Zealand. This has significant implications for schools. Poverty decreases a child's readiness for school, with research finding that on average, children from low socioeconomic backgrounds have poorer communication skills and more limited vocabularies, weaker social skills and executive functioning skills, and poorer knowledge of numbers, copying and symbol use.³⁰ These trends continue throughout schooling, with research showing that low socioeconomic status has negative effects on cognitive development and academic achievement, as well as smaller effects on behaviour and some inconsistent effects on socio-emotional outcomes.³¹

Advancements in the sciences of learning

Alongside the pace of change affecting social, economic, technological, political and environmental aspects of life, the past several decades also have seen advancements in understandings of child development, child and adolescent psychology, and the learning sciences. While continuing to evolve, the research has provided greater understanding of the development and learning processes, which in turn have produced new insights into how to more effectively structure and deliver educational experiences to children and young people.

For instance, developmental neuroscience points to the central importance of executive functions, developed largely in the first six years of life, for fostering the psychological resilience and cognitive flexibility necessary to cope with such rapid change and to learn effectively, both in formal education and beyond. Cognitive neuroscience is providing greater evidence about what it takes to effectively learn cognitively demanding knowledge and skills, like those at the heart of our education system. When combined with developmental psychology, this research offers greater insights into the types of learning experiences that are particularly effective at different stages of children's development.

The state of the current education system

With the rapid pace of change across all aspects of life, it is little wonder that the schooling system is facing a number of challenges.

Not all students are learning

Student achievement in New Zealand is at best stagnating and at worse declining, according to a range of data. The New Zealand-based Curriculum Insights and Progress Study (previously MNSSA), which assesses students across the curriculum at years 4 and 8, together with the international tests of primary-aged students, Progress in International Reading Literacy Study (PIRLS – literacy) and Trends in International Mathematics and Science Study (TIMSS – mathematics and science) found outcomes have remained reasonably static over the past decade. However, the proportion of students at the desired curriculum level by year 8 is low. In reading, only 47 percent of students are 'at the level' or 'above the level' of the curriculum in Year 8, and only 22 percent are 'at the level' or 'above the level' in mathematics.³² It should be noted that the maths data reflects assessment against a draft curriculum document and hence is problematic. Analysis of the data suggests that the proportion of children at curriculum level in maths at Year 8 is comparable to previous years. The most recent TIMSS study found only six percent of year 5 students were classified as advanced performers in mathematics, while 17 percent of students were classified as below low performers who could not perform simple mathematics tasks, which is higher than the international mean.³³

PISA tests of 15-year-olds show significant declines in median reading, mathematics and science scores between 2012 and 2022 for New Zealand students. In mathematics, the proportion of students achieving below Level 2 (considered by the OECD to be a baseline level of proficiency) increased significantly from

15 percent in 2003 to 29 percent in 2022. In conjunction, the proportion of students who are at or above Level 5 of PISA (top performers in the subject) reduced from 21 percent in 2003 to 10 percent in 2022. There are similar trends in reading. In 2000, 14 percent of students were below level 2. This significantly increased to 21 percent in 2022. Similarly, the proportion of top reading performers (Level 5 or above) declined from 19 percent in 2000 to 13 percent in 2022.³⁴

New Zealand also has high levels of variation in student achievement. For example, in PISA mathematics, the score-point difference of 258 points between the lowest-performing students (10th percentile) and the highest-performing students (90th percentile) was higher than the OECD score-point difference of 235 points. Further, New Zealand has much greater within-school variation in student achievement than between-school variation.³⁵ Despite persistent efforts, inequity continues to plague New Zealand's education system. In all assessments, children from low-socioeconomic households, and Māori and Pasifika students, perform on average significantly below their high-socioeconomic, and Pākehā and Asian peers respectively.

The decline in student academic outcomes, particularly in reading, is unsurprising given data showing a substantial proportion of children starting school with poor oral language (a precursor for literacy and the ability to engage in academic learning more generally). A recent report found 20 percent of five-year-olds in New Zealand are struggling with oral language, and more than half of parents and whānau report their child had some difficulty with oral language in the early years. Nearly two-thirds of teachers (59 percent of ECE teachers and 65 percent of new entrant teachers) report that Covid-19 has negatively impacted children's language development and social communication.³⁶

New Zealand's academic outcomes partly reflect curriculum design decisions and pedagogical approaches over the past 20 years. However, achievement is also influenced by a range of other within-school and out-of-school factors, including student-level factors. American scholar David Berliner determined that out-of-school variables account for about 60 percent of the variance in student achievement. Berliner states:

*In aggregate, such factors as family income; the neighbourhood's sense of collective efficacy, violence rate, and average income; medical and dental care available and used; level of food insecurity; number of moves a family makes over the course of a child's school years; whether one parent or two parents are raising the child; provision of high-quality early education in the neighbourhood; language spoken at home; and so forth, all substantially affect school achievement.*³⁷

Therefore, any reforms attempting to improve school achievement and reduce inequities must not only focus on educational policies but must also include economic and social reforms.

The kids are not okay: Declining mental health and wellbeing

Following global trends, the percentage of young people in New Zealand who report having experienced significant symptoms of depression increased significantly from 13 percent in 2012 to 23 percent in 2019.³⁸ Evidence further suggests that young people's mental health and well-being has been more negatively affected by the Covid-19 pandemic and associated lockdowns than that of other age groups.³⁹ In the New Zealand Health Survey for 2022/23, one in five 15–24 year-olds reported experiencing 'high' or 'very high' levels of mental distress in the past four weeks.⁴⁰ The most recent PISA study found the average level of student life satisfaction in New Zealand is one of the lowest among participating countries (ranked 67/73), with 23 percent of students reporting being unsatisfied with their lives.⁴¹

Early evidence shows that young people's mental health and well-being have likely been affected more negatively by the Covid-19 pandemic and associated lockdowns compared with older age groups.⁴² Schools corroborate these findings: 82 percent of New Zealand secondary school teachers agree that mental health issues are occurring more often than two to three years ago,⁴³ while the degree to which they feel equipped to support students varies. A pre-pandemic survey of primary teachers found 52 percent of teachers

reported co-ordinated support systems for student mental-health needs in their schools, but only 32 percent had received training to help them recognise mental health warning signs in students.

Increasing poor behaviour

Student behaviour in New Zealand schools appears to be declining. A quarter of principals reported that they see students physically harming others and damaging or taking property every day, while over half of teachers report that all types of behaviour have become worse, particularly the number of students displaying challenging behaviour.⁴⁴ In a 2019 study, 61 percent of secondary teachers reported often or sometimes experiencing student behaviour causing serious disruption to their teaching, up from 48 percent in 2015.⁴⁵

These figures align with a recent report from the Education Review Office (ERO) on student behaviour, which found almost half (47 percent) of teachers spend at least 40–50 minutes each day responding to challenging behaviour, and three-quarters of teachers believe student behaviour is impacting on students' progress. Two-thirds of teachers (68 percent) and principals (63 percent) find that challenging behaviour in the classroom has a large impact on student enjoyment, which is a key driver of student attendance.⁴⁶ Teachers at primary schools⁴⁷ and secondary school⁴⁸ want more support to effectively manage student behaviour.

High levels of absenteeism

Absenteeism has increased in New Zealand since 2015 and has intensified since Covid-19. In 2019, 57.7 percent of students attended school regularly (classified as 90 percent of the time). This dropped to 38.9 percent in 2022, before rising to 48.8 percent in 2023.⁴⁹ The reasons for these growing levels are complex, including factors both within and outside of schools.

Data from the Education Review Office shows that at the student level, a third of students do not think that going to school every day is that important, and 22 percent do not think that school is important for their future.⁵⁰ For 35 percent of students, not liking getting up in the morning or being tired is a barrier to them attending school. Further, 17 percent of students reported that not liking at least one of their teachers is a barrier to attending school, and for ten percent, being bullied or picked on or not liking people in their class (15 percent) was a barrier. Since the pandemic, the number of students having to work to support their families alongside attending school is contributing to growing absenteeism, or in many cases leading to students leaving the school system early.⁵¹ Other factors pull students into attending school: getting to see and spend time with friends (80 percent of students); recognising how school will support their future (54 percent); and liking at least one of their teachers (41 percent).⁵²

Education Review Office data also show that parental attitudes and beliefs impact attendance.⁵³ For example, 41 percent of parents are comfortable with their child missing a week or more of school a term. Two-thirds of parents (67 percent) would keep their children home for a family, cultural or special event, and a third (35 percent) would take children out of school for a holiday of a week or more, or to participate in a sporting event (41 percent). Nearly half would keep their child out of school for mental health challenges (46 percent), and more than a third would keep their child out of school to avoid bullying (38 percent).

Any initiative to reduce absenteeism must address societal expectations and beliefs around schooling and its value, student-level factors, economic factors, and also school-level factors. The value of schooling must be recognised. However, this likely will take both social change as well as educational change, so that there is closer alignment between the content and structure of the educational opportunities and offerings at schools and the beliefs and needs of society.

Teachers are opting out

There is a growing shortage of teachers across New Zealand and around the world. In New Zealand, the shortage is particularly acute in some regions and, at the secondary school level, in certain subjects – most particularly mathematics, physics, chemistry, technology and Te Reo Māori. The reasons for the shortage are manifold.

The teacher workforce is ageing, meaning a growing number of teachers are reaching retirement age. This is coupled with fewer people opting to become teachers and relatively high attrition in the first three years of teaching.

A recent survey of New Zealand secondary school teachers found morale among teachers is lower than anytime in the previous decade, with only 45 percent of teachers reporting their morale as good or very good, and 23 percent as poor or very poor.⁵⁴ Twenty-seven percent thought their workload was so high they could not do justice to all their students. Of respondents, nine percent indicated they were planning to leave teaching for personal reasons, and a further 14 percent indicated they were hoping to retrain for a job outside of teaching. At the primary level, less than half of teachers thought their workload was fair or manageable, and a quarter thought their workload was so high that they could not do justice to students they teach.⁵⁵

The behaviour of children is impacting teacher wellbeing and their desire to stay in teaching. Half of teachers indicated that student behaviour has a large impact on their intention to stay in the profession.⁵⁶ New Zealand principals are also indicating the growing pressures of supporting growing numbers of vulnerable students, with 80 percent of principals in 2023 indicating that providing support for vulnerable students was a significant issue they were facing, up from 66 percent in 2018.⁵⁷ Furthermore, 76 percent of principals believe too much is being asked of schools, and 71 percent indicated they are struggling to recruit high quality teachers.

What schools could be: Questions and directions for our educational futures

It is evident that education needs reform. The scope and scale of this reform cannot be limited to incremental best-practice approaches. Nor can it be constrained just to educational initiatives. The education system faces a wide range of challenges from internal and external sources, which demands a new approach to change. This approach needs to combine educational reform with broader social and economic policy change. We cannot tinker our way to utopia.

Schools are arguably one of the last social institutions. Institutions, including ties to family and friends, civic associations, religious groups and sports clubs, have been in decline for the past 50 to 60 years.⁵⁸ This has substantial implications for the development of social capital, which in turn impacts social cohesion. Research has shown that education fosters the accumulation of social capital, which supports the building of human capital, i.e. education and training.⁵⁹ Social capital within the walls of the school – peer relationships, teacher-to-student relationships, and teacher-to-teacher relations – as well as social capital outside the school – to families, communities – is closely connected to improved educational outcomes. Schools in any context have a significant role to play in supporting social capital. In a climate where social institutions are in decline and social cohesion is becoming more precarious, the potential importance of schools becomes even greater. However, schools cannot play this role effectively in their current form or with their current level of resourcing.

Educational purposes

Any call for educational reform should start with examining the purpose of education or schooling. While there is broad agreement that schooling must balance preparing young people for civic, social and economic life, there is little consistency on the exact balance between these, or, more importantly, on how this purpose should be realised.

Educational philosopher Gert Biesta's tripartite division of the purpose of education provides a valuable starting place. It emphasises the importance of educational content, purpose and relationships. Biesta suggests that discussions about the purpose of education should concern three different domains: qualification, socialisation and subjectification.⁶⁰ Qualification broadly refers to the acquisition of knowledge and skills, socialisation to the (re)presentation of cultures, traditions and practices, both explicitly and implicitly, and subjectification relates to the influence of education on the student as an individual and being (or becoming) a subject of their own life.⁶¹

As Biesta emphasises, "the point of education is never that students simply learn ... but that they learn *something*, that they learn it *for a reason*, and that they learn it *from someone*", and he argues that too often answers to the questions of what, why and from whom are assumed. Consequently, the purposes of education are not properly interrogated. With the range of challenges affecting the education system coupled with the level of change and uncertainty in the world more generally, questions about the purposes of schooling and what this means and looks like in practice, and the structures and systems that must underpin them, cannot be blindly assumed. It is more important than ever that they are deeply and holistically considered.

The sections below are an attempt to think through some of the topics and questions that need to be addressed when considering education reform. It is not a definitive list. Nor does it provide definitive answers to what should happen. But it does strongly advocate for an approach to educational reform and educational policy-making that looks beyond the short-term and immediate fixes (although undoubtedly some of those are desperately needed) to develop a schooling system for the future. Many of the ideas discussed below are already happening in isolated pockets, sometimes in New Zealand but more often in different countries around the world.

Questions of time

The schooling system is governed by time, with the school year the standard unit. The changing nature of society, together with advancements in the sciences of learning, suggest that the dominance of time must be examined.

From a practical and standardised viewpoint, the centrality of the school year makes sense. However, research demonstrates that children enter school with vastly different knowledge bases and readiness to learn. Furthermore, learning is not linear. Children progress at different rates, some learning certain concepts quickly, while others take more time. Progress may be quicker in some subjects than others. Learning is rarely steadily paced and more often occurs in fits and starts.

One of the greatest challenges for teachers is how to adequately cater to the substantial range of needs and levels in a single class. Differentiation or its more extreme version, streaming, have rarely been a satisfactory answer. Advancement in academic subjects must also be calibrated against socio-emotional development and the benefits that arise from children and young people spending time around others in their age group, as well as in mixed-aged groups. The nuances involved in readiness to learn and rates of learning are not easily accommodated in the existing school system.

It is not only the dominance of the school year for determining progress where there is a disconnect between time and schooling. The shape of the school year does not align well with contemporary life. The long break over the summer, a throwback to a time when many children helped their families on the land

over the summer, and the fortnightly holidays every ten weeks are a challenge for families where both parents are working. Furthermore, there is research indicating that for some children, having an extended break over the summer leads to a loss of learning by the start of the next school year.⁶² Such an observation does not necessarily suggest that children should be engaged in ‘traditional’ academic learning for more than the forty weeks a year they currently are (although that might be worthy of further consideration), but rather it highlights the need to examine what other roles schools could play during the traditional term breaks. One can imagine a system where children continue to attend school over the holidays, not to be taught by their teachers, but to engage in a range of other activities – sports, the arts, life skills, outdoor education – led by people (not the teachers) with expertise in these areas.

Questions of ‘the what’

While Biesta may provide us with an understanding of the three domains that constitute the ‘what’ of education and how they interact with one another, he provides little detail of the specifics. There have been changes made to the structure and content of the curriculum over time; however, at least in New Zealand, it remains principally focused on what might be termed traditional disciplines. These are undoubtedly foundational subjects and should play a central role in the education of young people. However, it is highly likely that other subjects and topics should sit alongside these. Similarly, the place of competencies, character education and skills in the school curriculum must also be considered.

Alongside the content of the curriculum, consideration must also be given to the breadth and depth of students’ learning at school. What are the non-negotiables that all young people must gain during their schooling, and where and when should there be opportunities for specialisation and different pathways? How might a school be structured to facilitate balance between the two? And how do we create a schooling system that equips young people with a grounding in the local, national and global worlds in which they will live?

Questions of who

Research frequently finds that teachers are one of the most significant factors in student achievement,⁶³ and that the impact of a highly effective teacher can stretch beyond the year that they teach a student.⁶⁴ But teacher shortages are worsening in New Zealand and many countries around the world, and teaching professionals are becoming increasingly morose. While the reasons for these declines are manifold, there are some common themes and key issues that need to be addressed.

Teachers need to be supported to be able to focus on their primary duty – teaching students the academic curriculum. Currently, teachers are positioned as the point of intervention for nearly everything in human development (and increasingly in society). They do not have the training, time or resources to be able to do this. There needs to be careful consideration of other people who should be within a school to enable the school to fulfil the broad (and growing) demands being placed on it. Broadening the roles that schools play within their communities and society more generally makes sense. This needs adequate resourcing, including with staff beyond teachers, and also beyond the guidance counsellors, pastoral care staff and nurses that are currently based in some schools.

Workplaces are increasingly characterised by flexibility in working arrangements and fluidity in career pathways. Teaching has remained reasonably impervious to these broader changes. Education must consider how it can develop new professional pathways and career opportunities for teachers. For instance, there might be an opportunity to move away from a purely generalist model in teaching, and to instead identify and recognise the strengths of individual educators and shape their jobs so they can spend more time focusing on tasks that rely on their areas of expertise. Similarly, particular tasks might be transferred to people who are not teachers or are based outside of individual schools. Thought should also be given to how schools and the teaching profession more generally can allow teachers to embrace greater diversity

in their roles and to seek new responsibilities and opportunities both inside and outside of schools. Establishing more permeable boundaries – allowing teachers to engage more outside of their schools and those outside of schools to engage more in schools – could make teaching more appealing to some and provide substantial benefits to schools and schooling more generally.

Questions of how and where

There is growing recognition in some quarters that a one-size-fits-all model of schooling does not adequately or effectively cater for the diversity of students and students' needs. Within any education system there should be multiple approaches and pathways. This requires careful consideration of the non-negotiable outcomes of compulsory schooling, together with an ability to identify, nurture and celebrate individual strengths, and to provide opportunities that support learning and growth for all students.

Developments in mind, brain and education research, and in the science of learning, are providing increasing insight into how we learn and the factors that support and hinder learning.⁶⁵ Drawing on this information, there is considerable potential to design learning experiences that are tailored both to different subject areas or knowledge types, as well as to students with different learning needs. Greater appreciation for the science of learning also enables the development of learning opportunities that extend beyond (or fall outside) what might be considered the traditional domains of schools and school-level education.

Advancements in learning science, together with new thinking from outside of education, are prompting educators to question how best to design learning environments and develop models of schools and schooling that have the flexibility to cater for changing needs and contexts. The redesign of learning environments encompasses the physical space, resources and materials that are used in schooling, as well as the expansion and repositioning of the roles of educators and other people involved in and with schools.

Expanding the boundaries of schools offers opportunities for schools to partner with external organisations and experts to enrich and supplement their current offerings. For instance, in a 'schools as community hubs' model, schools become the site for a range of services beyond their traditional offerings. They recognise the multifactorial nature of learning, engagement and achievement in schools, and the potential for connecting schools as sites of teaching and learning with a broader range of social services, multi-generational support and population health services.⁶⁶ Providing greater links with the world beyond school also offers opportunities for engaging more closely with external experts who can provide students with access to new knowledge and more diverse learning experiences. Furthermore, there is considerable potential to explore how external organisations and settings outside the physical school grounds can become classrooms, providing students with experiential learning that is more directly related to 'real world' contexts.

Education policy for the future

New Zealand needs to embark on long-term planning and policy development in education that examines and potentially disrupts the grammar of schooling. This does not discount a simultaneous focus on evaluating and implementing immediate 'best practice' reform initiatives. Indeed, these are essential, particularly to address specific issues or challenges in the short term. However, as the world becomes more complex and uncertain, the need for future-oriented policy formation becomes ever more pressing. We will do our children and young people a substantial disservice if we continue to conceptualise schools only in the same ways that we have over the past generations, and our society will be poorer both socially and economically if we continue just to tinker.

As changing contexts and multiple forces are causing people to advocate for shifts in the ways teaching, learning and the curriculum are structured, it is crucial that any changes and development draw on the existing developmental, educational and psychological evidence base about effective structures and practices in education from early child education through the compulsory years. It is also crucial to

combine this with an openness to question and, where necessary, move beyond the traditional ‘grammar’ of schooling. Such an approach does not, as some might suggest, signal the death of schools or schooling. Rather, it suggests a renewed vision for and expanded role of schooling, which retains those structures and practices that remain relevant and effective but repositions them within a new, broader framework.

Achieving this will be no mean feat. Policy-making in New Zealand is driven by the three-yearly electoral cycle, meaning a focus on long-term reform is limited. Mechanisms must be put in place to ensure that longer-term thinking and planning is embedded into policy decision-making. Changes to the grammar of schooling will also require that key stakeholders – educators, parents, employers, and the general public – are brought along on the reform journey. Attitudes to education are often conservative, rooted in the memories of experiences we each had during our schooling journeys. However, it is clear that the status quo is not achieving the holistic outcomes that our young people need. It is incumbent, therefore, that long-term change is enacted. After all, children are our best investment for the future.

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