SECONDARY FUTURES
HOENGA AUAHA TAIOHI

STUDENTS FIRST

OVERVIEW

STUDENTS FIRST

Five themes form the basis of how New Zealand can provide learning so that more of its young people are more successful in the future. The first theme, *Students First,* is the subject of this paper.

New Zealand has told us that, in twenty years' time, these will be the preferred platforms for how learning is organised around students' needs:

Student and teacher define a customised learning programme

With the support of the family, a student and teacher work together in a positive relationship to identify and develop a learning programme that puts the student's goals at the centre of the learning process. Learning strategies, timelines, resources, monitoring and evaluation are built from this customised programme.

Learning happens from more than one site

Students work from a number of sites, which may include local, national and international providers, although they are likely to associate with one learning centre as their social hub. Some of these sites may have learning as their primary function, although they might instead have community or commercial activity as their key focus. For some students, more of their programme is centred at home or a place where they can work independently. The proportion of time on each site depends on the customised learning programme.

Several modes are used for learning

Students work with their peers, other adults and on their own, through a range of modes. Some of these are face to face, others by way of technology – through pictures, sound and text, or by hands-on learning. These learning and social modes allow students to integrate knowledge and develop relationships that set them up as learners and as future citizens.

A network of learning and other services is available for each student

Links across the various parts of the education sector mean students are able to access the most appropriate expertise and resources to meet the goals outlined in their customised learning programme. In some cases, these services are extended to the student's family or community of interest. For some students, access to services such as health may be a priority.

"People have different learning styles. Maybe in the future what we will be really good at is being able to marry up a particular child with a particular learning opportunity and if we have done nothing more than that we will have done well."
Mason Durie, Guardian

CREATING THE VISION

New Zealand can demonstrate that its current schooling system produces excellent students, equal to the best from any other country. But too many students are leaving school each year ill-equipped for their future and ours.

Thousands of New Zealanders have worked with Secondary Futures to create a vision for schooling in twenty years' time so that more students can be more successful.

The aim is not necessarily to identify a definitive future, but to consider future possibilities, contemplate what values we want to entrench in that future, and how we might construct a learning system that is flexible enough to respond to whatever the future throws at us – and still allows more students to be more successful.

When New Zealanders have been invited to consider how the future might be, and what students might need to be successful in that future world, they have identified some clear preferences for how schooling could be.

No one has been confident that the current system will be good enough.

But many have identified that the best of what is happening in schools today could form the basis of our future system.

Free to imagine a blank canvas for schooling, New Zealanders have said overwhelmingly that they would place students at the centre of that canvas, and design systems and provide resources that meet the needs of the individual student.

Our role has been to oversee the integrity of the Secondary Futures process. Part of that requires us to reflect these possibilities and preferences to you and others interested in education. Many of these ideas may not be new. They do, however, carry a wide mandate.

This paper then, represents a synthesis of views New Zealanders have shared with us about what *Students First* learning might look like. It provides part of a framework for contemplating change in schooling.

Mason Durie
On behalf of the Guardians

STRIVING FOR SUCCESS

Secondary Futures analysed responses from thousands of New Zealanders and from these has identified five themes for educational success in the future. Each theme in turn is the subject of deeper investigation and checking with a sample of participants involved in the schooling process.

This paper explores the first of these themes and sets this framework against New Zealand's emerging future.

The five themes have implications for the ways in which learning will occur and the outcomes that will benefit students and society. These themes are:

- Students First
- Inspiring Teachers
- Social Effects
- Community Connectedness
- The Place of Technology.

By being free to imagine a system that places students at the centre of the learning process, that values the changing role of teachers, relates closely to each student's social context, connects with communities and a wide range of services, and responds to the challenges of technologies, a picture emerges of how schooling might play a more positive role for all students, their families, communities, and New Zealand as a whole.

Students First is about placing students and their families at the centre, building a system around their futures, and expecting that they will succeed.

Students First recognises that schooling, and education more generally, should be focused on the needs of students and the achievement of best educational outcomes for them. There is no single benchmark against which student outcomes should be measured nor is there a single prescription that can apply to all students. But all students should be able to expect that the learning process will recognise their unique potential and play a constructive part in preparing them for the years ahead.

Inspiring Teachers investigates the re-definition of 'teacher', moving away from the traditional role as leaders who transfer knowledge, to mentors and guides who facilitate student learning.

Inspiring Teachers emphasises the critical roles teachers play in achieving good outcomes for students. It recognises that in the future the traditional role of transferring knowledge may not be as important as assisting student learning by acting as mentor and guide. Greater flexibility, partnerships for learning, and facilitating access to new learning environments will be increasingly relevant and inspirational teachers are those who can build a relation-ship and transfer a sense of excitement about the learning process.

Social Effects means students achieve because of who they are and where they come from.

Social Effects are of primary relevance to learning. While academic achievement is to be valued, there are other outcomes of equal importance including the capacity of learners to participate, succeed and contribute – as citizens, as part of the economy, as families and whānau, and as members of multiple communities. Social outcomes do not negate the relevance of other educational goals but underline the broader context within which students will spend most of their lives. Over the next twenty years New Zealand communities will become more diverse and more complex, and there will be high expectations from communities that the educational process will prepare learners to be useful members of the 'new' society. Moreover, increasingly, families will expect students to be able to make their way in a global context.

Community Connectedness means future learners will have access to expertise beyond the school walls – from parents, marae, industry, and community leaders.

Community Connectedness is a reminder that education does not occur in a vacuum. Learning is connected to people and places outside the immediate school environment and harnesses all the resources of the community. Already there is evidence that effective role models for learning are not necessarily in the formal education system. For many students, role models are much closer to home. A challenge for education will be to enable those opportunities to flourish within the broader gambit of learning. Multiple partnerships within the education sector, between sectors, with a range of agencies and with the wider community will facilitate the development of an inclusive environment that is aligned to the life experiences of students.

Technology will be influential in the organisation of schooling although not at the expense of social interaction.

The Place of Technology. Although the scope of new technologies in the fields of communication and science defies prediction, they will undoubtedly have a high impact on education. They will establish new contexts for living and working and provide both an aid to learning and a conduit to learning portals. It is unlikely that technology by itself will be an educational end point, but it will nonetheless become integral to the learning process, to the extent that teachers who lack technical competence will be at a disadvantage, schools that do not have access to new generation technologies will be unable to reach into the future, and students who have not been able to access new technologies may be forced to forfeit opportunities.

Students First is the first in a series of documents that will look at each of these themes in turn.

STUDENTS FIRST

There are three principal aspects of the *Students First* theme. The first is linked to the **learning outcomes** that might be expected when students become the centre of the educational process, while the second is about the type of **learning experience** that will be necessary if those outcomes are to be achieved. The third area is about the **paradigm shifts** that could lead to more effective student learning.

LEARNING OUTCOMES 2026

Taking into account the longer term future and the need for students to be able to participate fully in society in 2026, it has been possible to distil four key capacities that successful students should possess; all are highly relevant to schooling. Although bringing benefits to society generally, two capacities are more closely aligned with individual aspirations and personal good, while the other two emphasise the public good associated with education and the wider community and national benefits.

Successful students in 2026 will have:

- the capacity to learn
- the capacity to participate in a future society
- the capacity to be part of the New Zealand tradition
- the capacity to value self and others.

"Education is a marathon; it's not a 100 metre dash... it doesn't finish at the end of high school or the end of university; we should perhaps establish the rule that you don't finish school and then begin your working life – learning is something that happens and comes at you from all angles." Young Entrepreneur, Wellington

The *capacity to learn* recognises that in 2026 students will be bombarded with information from multiple sources. In order to benefit from the information deluge, and not to be overwhelmed or distracted by it, highly developed skills will be needed to screen out unhelpful data and to process other sources of knowledge efficiently. Schooling will be less about the transfer of factual knowledge and more about developing a capacity to process information in a critical manner. Learning as well as unlearning will be the central goals of education, and motivation for learning will arise largely from the link between schooling and the world views of students, rather than world views that are imposed to accommodate elements of compulsion and convention. A good outcome will be one where the capacity to learn has equipped a student to value learning and to continue learning well beyond formal school years.

"I would be running a system that relies on students being self motivated and students wanting to learn because I believe that all students can learn well and enjoy their learning if they are learning how they want to – provided they get the support they need and structure if they need it."
Year 11 student

The *capacity to participate in a future society* where there will be high levels of mobility, transformed attitudes to work and leisure, global competitiveness, and unforeseen challenges to stability, underlines the importance of schooling being in step with a changing world. A function of schooling is to prepare students for the future, to engage in meaningful work in New Zealand or abroad, to cope with societal pressures and uncertainties, to adapt to changing circumstances – economic, demographic or technological – and to contribute to communities and families. A good outcome is one where students leave school with a sense of confidence and the necessary skills, attributes and attitudes to live, work, and prosper in a global environment.

A *capacity to be part of the New Zealand tradition* expects that students will acquire an ecological sense, participate comfortably in New Zealand society, relate to New Zealand's heritage, and transmit Kiwi ideals to future generations. Schooling is not only about the acquisition of knowledge and skills but also about being part of the New Zealand way of life and assimilating values and ideals that are part of the nation's heritage. Although schooling must prepare students for global endeavours, being grounded in the New Zealand reality will add an element of stability and responsibility to lives that will be increasingly exposed to contradictory forces.

For some students the essence of the New Zealand tradition will be tied to the natural environment, for others it will be about sport, or marae, or language, or simply a 'give it a go' attitude.

A *capacity to value self and others* suggests an ability to form sustainable relationships based on a strong sense of personal worth, respect for difference and an appreciation of others. Self serving interests will be balanced by interest in the wellbeing of others. The inculcation of values is not a function that rests exclusively on the schooling process and this outcome will require clear understandings between families, neighbourhoods, and learning communities. But by 2026 the transmission of personal values may depend more on agencies beyond the home; to that end, although schooling may not involve teaching values, the process of learning will almost certainly be a powerful tool for modelling values.

LEARNING EXPERIENCES 2026

Students First is about building the capacities of students so they might realise their potential and live comfortably in a future world. Underlying this theme are several implications for education and schooling. From the data available to Secondary Futures, four trajectories have been identified; together they paint a vision for schooling and contribute to an agenda for change.

The four trajectories reflect emerging trends in education and learning as well as a stronger focus on the purposes of education and the desired outcomes:

- Customised learning pathways
- Linked-up learning programmes
- Multiple learning portals
- Synchronised learning platforms.

Customised Learning Pathways

Motivation for learning comes from both internal and external sources. But allowing students and their families to have a sense of ownership and control over 'what is learned, how it is learned and when it is learned'[1] has been shown to be a powerful motivating factor that transforms 'schooling as an obligatory activity' to 'schooling as a sought after opportunity'. The description of learning as customised may seem out of place in schools where custody is perceived as a major role, students are seen as unquestioning detainees rather than customers, and families are often regarded as obstacles to progress. However, the notion of a customised pathway reflects a shift from education as a compulsory requirement to one that builds on individual interest and enthusiasm, discerning parents, the exercise of choice and the facilitation of family and personal aspirations. It does not necessarily mean that students are working on their own, although this may well be a feature of some programmes. A customised pathway provides scope to include services beyond the traditional academic ones and identify solutions that allow all students to grow into confident adults.

Co-construction is at the heart of customised learning. Student and teacher work together, with support from the family, to develop a personalised programme of learning where the teacher's experience and knowledge combines with the student's goals and aspirations to create pathways for achievement. Curriculum choice is an important ingredient but central to co-construction is the relationship between teacher and student. Positive relationships are more likely where there is congruence between teacher and student without attitudinal barriers based on stereotypes or prejudice.

Individual Education Plans[2] have already been introduced in some schools and have a longer history for students with special needs. These identify the student's goals, timelines, teaching strategies, required resources, monitoring, support and evaluation. Sometimes however, Individual Educations Plans, where they are currently in use, are limited in that they are designed around a narrow curriculum choice and must be applied within a constrained framework. Customised Learning Pathways envisage a more fundamental approach to individualised learning.

"We recognise the uniqueness of every learner in our school. The individuality is linked very closely to who that person is, where that person is, their identity – their cultural identity, their personal identity, the heritage from which the individual comes." Principal, Taranaki

Linked-up Learning Programmes

Students in the future will have access to a range of learning programmes. Formal learning will occur in more than one centre, on a number of sites, and through a range of independent or semi-independent providers. Students could, for example, enrol in a specialised 'college' for maths or economics or science, in an international web-based 'academy' for art and music, in a wānanga for tribal history and te reo Māori, and in a more conventional 'school' for other subjects and social activities – all at the same time.

"Develop a 'Learning Hub', a centralised place that enables sharing, collective knowledge, initiates peer challenge. An opportunity to share views, political, industrial. A place to meet, check theories, thinking and allow socialisation." Education Professional

Multi-centre learning will offer students the chance to follow customised programmes and to be selective so that they can have choice over curriculum, the learning environment and the teacher. Small schools will not be disadvantaged if they are unable to offer a full curriculum because, for particular or specialised subject areas, students will register with other providers, possibly on line.

Enrolment in more than one school at the same time will shift the focus from education based on institutional requirements and institutionalised learning, to a more functional base that maximises access to a range of options, tailored to individual needs and ambitions.

The trend is already evident. Some students, for example, take subjects through distance education while attending a regular school and some schools have formed clusters that enable students to study subjects within a consortium of schools rather than solely at a single school.

In the Linked-Up Learning Programmes trajectory, clear and agreed protocols will be necessary so that students can move easily between options in order to maximise learning and without incurring educational disadvantage.

Multiple Learning Portals

Quite apart from classroom teaching, many other formal and informal portals to learning will increase student choice and opportunity. Face to face teaching will be complemented, or sometimes even replaced, by on-line learning, e-learning, television learning, and hands-on learning. Learning via several modes will present students with information from an increasingly wide range of sources.

For many students the important challenge will not necessarily be to gain access to information – but to assess the quality and relevance of the information, and to integrate multiple and often contradictory streams of knowledge so that a coherent approach emerges.

Schooling will play an increasingly important part in helping students to integrate and process multiple information streams. Not only will the curriculum be delivered in several modes, but a central task will be to provide students with the necessary skills to evaluate information regardless of its origins. Although schools have traditionally been agents for the dissemination of knowledge, by 2026 schools may not be the main sources of knowledge and information or even major players in information transmission. Instead, their more significant educative role will be to guide students through the several strands of information and knowledge in order that they might weave a coherent pattern and make sense of the information avalanche.

Synchronised Learning Platforms

Learning is not the sole prerogative of secondary schools. Informal education occurs in a variety of locations – at home, through sport and cultural activities, with peers, on marae, in industry. These contexts also provide opportunities to grow the social competencies needed to develop the adaptive citizens of the future. Formal education occurs at other levels too (early childhood, primary, tertiary). Secondary education that is out of step with community values, ideals, aspirations and realities runs the risk of producing cohorts of students who will be unable to participate or contribute to their own communities or to society generally. The implication is that if students are to be at the centre of learning, their schooling and wider personal needs such as health, should be aligned to community priorities for future development.

Further, institutionalised learning that places schools, staff and students at the periphery of society will not be able to do justice to the contributions that students might make to their own people in the future.

"My vision is one where learning is highly valued by the community so everyone is continually learning in a huge variety of sites and from a wide range of providers, both physically and electronically. It will happen just in time as young learners will develop the skills to prepare them for a life-time of learning." Teacher, Auckland

Synergies between neighbourhoods, communities of interest, social services, ethnic collectives, and the education system will be critical, not only to facilitate future student participation in society, but also to contribute to the advancement of society. Importantly, the links between elements of the formal education sector will also need to be strengthened – early childhood, primary, intermediate, secondary, and tertiary. Some New Zealand schools, private and public, provide education at a number of levels.

How communities participate in schooling will be an important consideration. An iwi group, for example, may wish to see its own dialect reflected in Māori language teaching at early childhood, primary, secondary and tertiary levels and, rather than negotiating with a range of institutions, would find it more efficient to reach some agreement at a community level.

Relying on community and parental input at the governance level may be insufficient for 2026, especially if the terms of participation are limited to addressing the status quo. The question is not only about how parents can contribute to schooling but how schooling can be responsive to communities and contribute to a synchronised, community-based approach to education. It is anticipated that communities will continue to have a strong emotional attachment to schools and that schools will support links to a range of personal services, certainly for students, sometimes for their families.

Synchronised Learning Platforms anticipate community educational platforms made up of key community interests, including schools. But the focus may not hinge solely around the needs of formal educational institutions, nor will schools necessarily lead the process.

Table 1 Learning Experiences 2026

Learner Priorities			
Customised Learning Pathways	**Linked-up Learning Programmes**	**Multiple Learning Portals**	**Synchronised Learning Platforms**
• Personalised learning • Curriculum choice • Co-construction	• Multi-site learning • Parallel enrolments • Consortia and clusters • Protocols for cooperation & coordination	• Diverse modes of delivery • Web-based • E-learning • Face to face • Hands-on • Teacher guided	• Family & community aspirations • Schooling linked to community futures • Early childhood, primary, tertiary • Links to other services

"Learning could happen in a small group, centred around virtual reality technology facilitated by a generalist educator who moves from one learning pod to another. Students progress at their own pace through interactive lessons which are attention grabbing and fun."
Teacher, South Auckland

PARADIGM SHIFTS 2026

Giving effect to learner priorities through the identified learning trajectories (Customised Learning Pathways, Linked-up Learning Programmes, Multiple Learning Portals and Synchronised Learning Platforms) will require quite major transformations in education at the secondary level. Paradigm shifts will be necessary within each trajectory and across trajectories.

Customised Learning Pathways, for example, will only be successful if the focus of attention shifts from classroom conformity, with its associated structures around programme delivery, lack of flexibility of choice and 'bulk teaching', to individualised pathways for growing and learning. The new paradigm will have implications across a range of policies and will require both attitudinal and systemic shifts. A personalised approach to learning is often criticised on the grounds that classrooms are too large to allow a focus on individual students.

Linked-up Learning Programmes will test institutional loyalty and institutional self-sufficiency, favouring more collegial relationships between schools and centres of learning so that *Students First* rather than institutional priorities can be the driving force. Rivalry between schools and competition for students will be out of place in a society where learner loyalties are more important than loyalty to institutions. Zoning provisions, based on the assumption that students will attend a single school, will be out of step with parental interest in niche learning opportunities and a readiness to engage with a range of learning programmes on different sites.

Table 2 Paradigm Shifts 2026

Trajectory:	From:	Towards
Customised Learning Pathways	Classroom conformity	Individual learning plans
Linked-up Learning Programmes	Loyalty to institutions	Loyalty to learners
Multiple Learning Portals	Knowledge transfer	Information management
Synchronised Learning Platforms	Fragmented silo-based learning	Coherent community-based learning

A significant shift in teacher roles will be part of Multiple Learning Portals; teaching students how to learn and how to handle information will challenge traditional views that teaching is mainly about transferring knowledge. Although secondary education will continue to be about the acquisition of knowledge, students may depend less on teachers for specialised subject knowledge and more on electronic access to international and national experts. They will, however, turn to teachers for guidance on accessing learning portals and interpreting the relevance and validity of knowledge.

An integrated community approach to learning through Synchronised Learning Platforms will demand a breakdown of silo attitudes to education. Students do not only learn in schools, nor do schools necessarily provide the most relevant learning experiences. Synchronised Learning Platforms will challenge fragmented approaches to education especially evident in the education sector (e.g. early childhood, primary, secondary, tertiary), as well as community disempowerment and family estrangement. They will also require the establishment of platforms where educational and learning interests can meet together with a sense of equality and cooperation.

MARKING FUTURE PATHWAYS

As part of the transformation from today's paradigm, New Zealanders might notice the following activities:

- School leaders taking up the challenge to think and act differently
- More discussions with students, families and communities about each student's learning goals
- The emergence of mentoring systems for all students and teachers
- More diverse learning programmes, times and sites
- Stronger links between students and their families, schools, community organisations, businesses and public services.

WHY CHANGE?

Over 85% of the New Zealand population live in towns and cities.[3]

48% of Māori school leavers and 37% of Pacific Island school leavers in 2005 left school with no formal qualification.[4]

In 2005, just over three-quarters of the population (76.3%) had access to the internet (compared with 37% in 2000).[5]

In OECD countries potential earnings for those with a university level degree are 8-20% higher than those with non-tertiary education.[6]

New Zealand's prison population rate of 155 per 100,000 people places it 7th highest in the OECD, just below Mexico.[8]

21% of dependent children were living in low-income families in 2004, compared to 14% in 1988.[7]

Almost 1 in 5 New Zealand residents and 1 in 3 Auckland residents was born overseas (2001 Census).[9]

In 2005, 28% of male and 38% of female school leavers attained UE, a Level 3 qualification or higher.[10]

New Zealand has the second-lowest government spending in the OECD.[11]

About one third of New Zealand children between 5-14 years are overweight or obese (2002 NZ Children's Nutrition Survey).[13]

New Zealand generated 400 kilograms of household waste per capita in 2004, the ninth-highest rate in the OECD.[12]

New Zealand females born in 2002 can expect to live to 81.2 years and New Zealand males to 76.7 years.[14]

One-parent families made up 19% of all New Zealand families in 2001 (compared to 9% in 1976).[15]

The distribution of wealth among different ethnic groups is uneven, with low incomes affecting 46.8% of Asians and others, 40.2% of Pacific Islanders, 23.6% of Māori and just 15.7% of Europeans living in households earning less than 60 percent of the median income.[17]

The top 20% of income earners have a disposable income 2.8 times larger than the total income of the bottom 20% of income earners.[16]

CONSIDER THESE INDICATORS OF HOW NEW ZEALAND IS NOW

NEW ZEALAND'S FUTURE

Although the future is unknown, there are numerous trends shaping New Zealand's future already emerging. The following highlights some of these trends and considers the implications for education.

DEMOGRAPHIC FUTURE

In 20 years' time, New Zealand will still be a small nation by international standards. Based on current trends, the population is projected to reach 4.73 million in 2026. There will, however, be large differences in regional growth. New Zealand will also be more ethnically diverse. Māori and Pacific populations in particular, and the Asian population to a lesser degree, all have a younger age structure than the majority Pakeha population. Combined with higher birth-rates for Māori and Pacific people, and the expected net migration levels for Asian people, these ethnic groups are likely to grow at a much faster pace than the Pakeha population.

With a greater mix of ethnic groups, nationalities, religions, languages, lifestyles and values, our increasingly diverse society will challenge the way that education is delivered and influence the shape of educational services:

- Schools will be faced with a greater range of family expectations and aspirations around what the school ought to be
- Teachers will have to respond to the practical challenges of teaching children from diverse cultural backgrounds
- Schools will play a critical role in fostering an ethos of cultural awareness and tolerance
- The education system will be challenged to employ staff from a range of cultural backgrounds in order to reflect the multi-cultural mix of the student population.

At present Māori, Asian and Pacific peoples are all under-represented among teachers, particularly at leadership levels.[18] Greater representation of these groups will require specific strategies to recruit a culturally diverse workforce and then to retain them in the face of increasing career opportunities.[19]

Futures trends

"We're sharing the successful trends occurring in education now and gathering information about the world we will be living in, in twenty years' time: our environment, population, technological aids, the world of work and so on, so that we can think about the best options for learning." Bernice Mene, Guardian

Changing family dynamics may impact on the relationship that exists between home and school. With students coming from increasingly diverse family backgrounds, this relationship is likely to be more complex and of increasing importance in the future. This may carry with it the expectation that schools expand their role to include some of the responsibilities traditionally carried out by parents.

An ageing population and increasing demands on health and elder care services suggest a growing financial burden that may impact on education budgets. Education may not be seen as a priority in communities that consist mainly of older age people or those without children. On the other hand, as the number of school-age children decreases, schools may increasingly look to serve the education needs of the surrounding community, fulfilling new roles as education learning centres for people of all ages.

ECONOMIC FUTURE

Reflecting demographic trends, New Zealand's future workforce is going to be older and more culturally diverse. Māori, Pacific peoples and Asians are likely to make up a significant proportion of the working age population, while the labour force aged 65 years and over is expected to increase from an estimated 38,000 in 2001 to 102,000 in 2021.[20]

The type of work New Zealanders are engaged in is changing, driven by globalisation, and new technologies and production techniques. Jobs are becoming more skilled and many of the fastest-growing job opportunities will require some form of post-school education or training.[21] The rapid pace of change means that the content of jobs and the skills required to do them will continue to evolve – whatever the occupation. To succeed in the future world of work, employees will need to learn new skills and knowledge throughout their lives, and generic, transferable skills such as problem-solving, communication and the ability to use new technology will be more important.[22]

This provides a major challenge for our schools, which will have to change if they are to prepare students to participate fully in future knowledge societies. Traditional concepts of education, focused on the acquisition of specific sets of knowledge, will no longer be appropriate. Increasingly, schools will be challenged to equip young people with the adaptability, flexibility and "learning-to-learn" skills that they will need to succeed in the future work environment.

Changing skill requirements highlight the need to address the educational under-achievement of many New Zealanders. The 'production line' model of schooling, created for the industrial age but still thriving in schools today, sorts people according to their future occupations in a highly segmented society. It succeeds in producing a few students who do very well and many who achieve at a reasonable level. However, it also produces a significant 'tail', who leave school having achieved very little. While there was once an abundance of low-skilled, reasonably well-paid jobs for low achievers, this is no longer the case.

The changing economy means that the number of jobs typically held by those with lower levels of education is declining in both absolute and relative terms, and those without the necessary skills will be increasingly excluded from the economy.

The failure of the current system to meet the educational needs of many Māori and Pacific students is of particular concern, given these groups will make up a large proportion of New Zealand's population in coming decades. New Zealand will face significant social and economic challenges if the causes of underachievement are not addressed and if the existing rates of unsuccessful students in all schools persist into the future.

TECHNOLOGICAL FUTURE

The rapid pace of scientific progress and technological innovation is a fundamental trend impacting on global society. Increasingly, technology pervades every aspect of daily life: food, healthcare, transport and entertainment. The pace of technological change, through advances in information and communication technology (ICT), biotechnology, and emerging fields such as nanotechnology, looks set to continue and even accelerate, with synergies across technologies and disciplines driving further innovation.

The education system can play a vital role in enabling young people to develop a broad 'technological literacy' by providing students with opportunities to experience and explore a wide range of technologies.

There is evidence of a persistent digital divide in New Zealand, with low household income and lack of formal qualifications proving to be barriers to accessing information and communications technology. Education providers may be important in bridging the 'digital divide' by equalising young people's access to these technologies and to the cultural capital needed to use it most productively.[23]

As society is likely to become even more 'connected' in the future, those without the necessary skills or access may be increasingly excluded from the economy or social participation.

Developments in ICT have already impacted on education, with increasing integration of ICT into both teaching delivery and the organisation of schooling. In New Zealand all schools now have access to the internet and schools are demonstrating a strong interest in e-learning.[24] However, current approaches, which use ICT simply as a new way of gathering and processing old information, are no longer adequate. The standard view of knowledge, which was embedded in print culture, has been replaced by new forms of digitised knowledge and multimedia forms of representation.

Futures trends

"The 'shrinking globe' means that knowledge, communication, and market opportunities are becoming dislodged from national frameworks and may not fall within the domain of any particular jurisdiction at all. Instead knowledge and education markets might be reinterpreted in the context of a global community."
Gillian Heald, Guardian

As the screen is replacing the book as the main medium for representing and communicating ideas, symbols – images, graphs, gestures, 3D objects – are assuming greater importance in transferring knowledge. Other modes of representation – sound, music, movement – are all used in today's meaning systems. Learners will need to be able to read and write in many different modes and read messages across many modes simultaneously. Schools, therefore, need to develop literacy in these different modes, requiring new approaches that are innovative and future focused.[25] The *New Zealand Curriculum (draft)* has responded to this need by identifying the use of language, symbols and text as one the five key competencies of capable people.[26]

ENVIRONMENTAL FUTURE

Evidence of human impact on the environment is all around us – the depletion of the ozone layer, deforestation, declining populations of indigenous plants and animals, erosion, contamination of soil and water, and declining air quality in urban centres. With over 85 percent of the New Zealand population now living in towns and cities, continued stress on the local environment will impact on the quality of life of future generations.

This may impact on the way that schooling is organised in the future. If climate change continues and accelerates, the capacity to organise schooling in crisis situations such as floods or periods of drought will be tested more regularly. More permanent effects of environmental change, such as the displacement of coastal communities affected by rising sea levels or reduced access to water in some regions, may pose long-term challenges.

Given increased environmental pressures, there is a keen and growing social and economic sense of the value of sustainable environmental management.[27] This depends critically on the knowledge, attitudes, values and behaviour of New Zealanders. The education system has a powerful role in ensuring that future generations are environmentally aware and behave in ways that are sustainable.

Educators will be challenged to find innovative ways of integrating education for sustainable development into both the curriculum and broader school practices.

LEARNING FUTURE

Schooling in New Zealand and similar jurisdictions has been moving towards a *Students First* approach to learning systems.

The type of student centred learning described in *Students First* is not a new teaching technique; it is allowing students more control over *'what is learned, how it is learned and when it is learned'*[28]. Through co-construction, learning programmes become as much the responsibility of the learner as they are the teacher.

By working together to create learning opportunities, students have ownership and power over their learning, which should lead to increased motivation, enjoyment and achievement. "*Students with students and teachers with students are actively engaged in the co-construction of learning, as students are often equal partners in the creation of new knowledge and new art. Indeed, teachers acknowledge that some students may possess at least as much knowledge of the subject as the teacher through extra-curricular activities. Both teachers and students feel they have permission to experiment and take risks.*"[29]

One model illustrating this approach to learning in New Zealand is the Individual Education Plan (IEP). An IEP outlines a student's goals and the time in which those goals should be achieved.

The plan also describes the teaching strategies, resources, monitoring and support, and the evaluation required to enable the student to meet those goals[30]. Such plans are primarily used for students with special needs, although some schools have them in place for all students. In general though, individual plans are not common practice in New Zealand state secondary schools.

For a student centred learning model to be successful, learners must also have control over what they are learning to create personalised lessons that have meaning in their lives and relevance to their context. The OECD reports one of the five key areas for developing personalised learning is that *"the curriculum choice engages and respects students...every student enjoying curriculum choice, a breadth of study and personal relevance, with clear pathways through the system"*[31].

Learners can achieve this engagement with learning, so critical to success, through co-construction with a teacher. The student offers ideas and the teacher guides the student to the most effective pathway toward achieving that goal. Customised learning is modelled very effectively in the early childhood sector. "*There can be wide variations in the rate and timing of children's growth and development and in their capacity to learn new things in new places. Each child learns in his or her own way. The curriculum builds on a child's current needs, strengths, and interests by allowing children choices and by encouraging them to take responsibility for their learning*".[32]

Central to effective co-construction is the relationship between the student and the teacher. Relationships can affect student achievement as found by *The Competent Learners at 14* project. *"Students at 14 who are engaged in school and learning are likely to be in positive learning environments where there is good feedback from teachers, relevant teaching, challenging work and a focus on learning at the students' pace."*[33]

The Best Evidence Synthesis on Quality Teaching for Diverse Learners (BES) went further to state *"59% of variance in student performance is attributable to differences between teachers and classes."*[34]

The Te Kotahitanga project has also found the relationship dynamic between Māori students and teachers to be paramount in increasing achievement. *"The Māori students, those parenting these students and their principals (and some of their teachers) saw that the most important influence on Māori students' educational achievement was the quality of the in-class face-to-face relationships and interactions between the teachers and Māori students."*[35]

Ethnicity should not be a barrier to achievement in New Zealand. However, *"the overall academic achievement levels of Māori students is low, their rate of suspension from school is three times that of non-Māori and they tend to leave school with less formal qualifications than do their non-Māori peers"*[36].

Through structured professional development programmes, teachers examined their attitudes and addressed historical misconceptions towards Māori students, which led to increases in student achievement: "*When teacher-student relationship and interaction patterns have changed as a result of a process of fully supported professional development... Māori students' on-task achievement increases, their absenteeism reduces, their work completion increases, the cognitive levels of their classroom lessons are able to increase, and their short term achievements increase, in many cases dramatically so*".[37]

The senior secondary school qualification, National Certificate of Educational Achievement (NCEA), is a standards based assessment model that gives teachers and learners the flexibility needed to co-construct their programmes. Standards can be taken from any curriculum area to develop an individual assessment schedule.

"*Personalised learning required new modes of assessment, such as authentic assessment, performance assessment, or (digital) portfolios. By expanding the range of abilities measured and ways of making the measurements, other intellectual strengths that might not have been apparent through conventional testing can be found and students' own self-beliefs of learning strengthened*".[38]

Despite concern that NCEA would make students interested in credit counting and less in achievement, a recent study by Victoria University reported *"the strongest predictor of high academic achievement and higher grades was a high motivation orientation towards 'Doing my Best' and a low motivation orientation towards 'Doing Just Enough'"*[39].

Interesting and engaging subject content will also increase motivation – *"students primarily chose subjects that were of interest to them"*[40] – proving that key to increasing motivation is offering students subjects that they are interested in. *"Young people engage best in developing their own skills and aptitudes when they are given genuinely interesting and exciting opportunities to do so."*[41]

STEPPING INTO THE FUTURE

Many of the signposts for New Zealand's future and for opportunities to make more learners more successful are evident today. Shaping the future of secondary schooling may not be so much a leap into the unknown as ensuring today's indicators and successes are better understood and more widely distributed.

"Secondary education needs to be targeted primarily at promoting and tutoring subjects, tailored to suit students individually, teaching in a way that appeals to their interests and passions. Teaching skills that will help craft creative, positive, contented young people who are happy with their abilities and where they stand in society." Student, Christchurch

WHAT IS SECONDARY FUTURES?

Secondary Futures – Hoenga Auaha Taiohi – is a project set up to encourage discussion and debate about the role and purpose of secondary education in New Zealand, twenty years from now so that more students can be more successful.

In its Phase One activity, the project created tools that give New Zealanders the means to think about what the future might look like, and how education fits into it.

In moving thinking away from short-term issues and limitations, Secondary Futures encourages exploration of future possibilities and consideration of preferences for schooling. By stimulating discussion, especially bringing in the voices not traditionally heard in the debate shaping education policy, it can capture a vision that will provide a richer deeper foundation for policy makers and help create a mandate for change.

Secondary Futures is led by four Guardians who give the project independence and ensure its integrity.

The Guardians are:
Professor Mason Durie
Deputy Vice Chancellor of Massey University
Gillian Heald
Expert in education leadership and curriculum
Bernice Mene
International athlete and teacher
Ian Taylor
Founder of Animated Research Ltd

SECONDARY FUTURES – THE JOURNEY SO FAR

When it was launched Secondary Futures was little more than a concept. Although able to draw on the experiences of earlier futures programmes, in education, in other areas, and internationally, the application of futures planning to schooling in New Zealand was largely untried and lacked both a methodology and a definitive course of action. Confronted with a set of ambiguities on the one hand, and high expectations from the sector on the other, the Guardians developed a framework within which the project could be better conceptualised and then translated into a series of actions.

The framework[42] incorporated five overlapping components: a central focus, five principles, contextual variables, pathways and guardianship.

What is Secondary Futures
"Secondary Futures is about taking stock. It's not about fixing the problems of today – it's about examining the future. It's about asking the hard questions of what the future may be like, it's about asking what will New Zealand's role be in that future and it's about asking how will our kids need to be equipped to meet the future and how can we best equip them?" Ian Taylor, Guardian

THE GUARDIANS' FRAMEWORK

The central focus recognised the longer term objectives of Secondary Futures as well as the best interests of students while the identified principles included:

- Derived good (education has personal and public benefits)
- Diversity (ethnicity, options for learning)
- Empowerment (of learners for future environments)
- Connectedness (communities, society)
- Transformation (of education and the education sector).

A series of tailored workshops throughout the country provided opportunities for participants to think beyond present day practices and consider the possibilities for schooling a generation ahead. Focus groups considered educational futures from a variety of perspectives such as teacher training, sector leadership and learner points of view. Additional tools including trend cards, storycards and conversations were introduced.

By adapting the scenarios to New Zealand circumstances and extending their reach to include possibilities for Māori education, the relevance of national traditions and distinctly New Zealand characteristics was enforced.

Secondary Futures has analysed written responses from thousands of participants who were involved in the futures literacy workshops during the first phase of the project and taken into account responses to specific questions posed during a series of targeted workshops. These questions included:

- How can secondary education best enable young people for their futures?
- How could learning happen?
- What is the purpose of secondary education?

While the results do not paint absolute pictures, they do provide clear enough pointers to permit the construction of student outcome profiles, to characterise the schooling experience that will produce those results, and to identify the types of paradigm shifts that must be considered.

EVALUATING SECONDARY FUTURES' EFFECTIVENESS

In order to gauge the value of its early work, Secondary Futures contracted an external evaluation of its short term effectiveness. The findings suggest that "the processes used by Secondary Futures were very effective in relation to their first four Phase One objectives: creating space; providing tools; sharing trends; and sharing information about possibilities."[43]

In addition to this, participants valued the thought-provoking tools and activities designed by Secondary Futures, as well as the opportunity to work outside the constraints of daily pressures, and to work with those outside their usual sphere of reference.

Those interviewed for the evaluation appreciated Secondary Futures for:

- "retaining a good level of political independence
- managing to bring together a range of stakeholders in a non-threatening manner, and
- raising the profile of futures thinking in New Zealand."[44]

NEXT STEPS

In the next phase of its work, Secondary Futures will:

- Continue to support the education sector and wider community to contemplate possible futures for schooling
- Conduct deeper investigation into each of the four remaining themes and publish a paper for each
- Support education agencies and school leaders to implement this emerging vision in policy and practice.

For more information about the Secondary Futures project see: **www.secondaryfutures.co.nz**

WHAT IS FUTURES THINKING?

Futures thinking is an *"exercise in imagining what today might become, what we want tomorrow to be like and how to assess the action that might make a desired future more likely to occur."*[45]

Secondary Futures uses futures thinking because:

- it introduces perspectives beyond the straitjackets of today's issues and immediate constraints
- its participatory approach encourages people to become involved in policy decisions
- it shows how existing values and assumptions, which tend to be seen as immutable, might be changed for better or worse.[46]

Futures thinking *"creates an environment for deeply informed decision-making, in the hope of smoothing the transition toward a future with a sustainable balance between short- and long-term policy goals."*[47]

Because the actual future is unknown, there is a presumption that such decision-making processes do not have one specific future in mind. In this way, the core aim of future studies is '*neither prediction nor advocacy.*'[48]

By creating a safe place for debate, thinking in a futures context, and involving such a wide range of participants, Secondary Futures aims to encourage divergent thinking and broad ownership of possible solutions, rather than converging towards a single solution for schooling.

"Because the future is open, thinking clearly and rigorously about it is essential if we want to recognise our values and commitments and to understand the choices that we might make, individually and together."[49]

Futures thinking

"I think Secondary Futures is bold, by international standards, and reflects independence that is unusual in international circles to pursue the unknown, to take on issues and processes that are not necessarily tested but that have promise, and to be experimental."
Riel Miller, Futurist

THINKING ABOUT FUTURE STEPS

Secondary Futures creates the space for New Zealanders to think about the future of schooling. Consider some next steps to move into this Students First vision for schooling:

What will you do to drive this change?

What will others need to do?

Secondary Futures is interested in receiving your thoughts:

info@secondaryfutures.co.nz

INTERNATIONAL

OECD'S SCHOOLING FOR TOMORROW PROJECT

The *Schooling for Tomorrow* programme run by the OECD's Centre for Educational Research and Innovation (CERI), aims to develop futures thinking in education. It is concerned with schooling in a broad sense, including what takes place in the institutions formally named "schools" but equally with the learning and experiences that go on in other ways and places, relating to young people up to approximately 18 years old. The programme is contributing to the understanding of lifelong learning as a broader defining CERI theme and is co-ordinated with parallel OECD futures work.

International
"I can say this from an OECD perspective, because I've been engaged in the work in England, the work in Canada, the emerging work that's starting to take place in Australia – I know genuinely that the New Zealand work at Secondary Futures is being talked about internationally, being at the leading edge." Tony Mackay, OECD

Phase One of *Schooling for Tomorrow* analysed trends and methodologies, with the key outcome being a set of six scenarios for schooling systems:

Attempting to Maintain the Status Quo

- The "*Bureaucratic School Systems Continue*" Scenario

Diverse, Dynamic Schools After Root-And-Branch Reform ("re-schooling")

- The "*Schools as Focused Learning Organisations*" Scenario
- The "*Schools as Core Social Centres*" Scenario

The Pursuit Of Alternatives As Systems Disband Or Disintegrate ("de-schooling")

- The *"Extending the Market Model"* Scenario
- The "*Learning Networks and the Network Society*" Scenario
- The "*Teacher Exodus and System Meltdown*" Scenario.

In addition, the project worked on parallel analyses of innovation, networks and the role of technology in education.

Phase Two focused on working with a small number of volunteer "inner-core" systems, exploring how futures thinking can inform concrete challenges for educational leadership and policy-making. The countries involved were New Zealand, England, Canada and the Netherlands.

As described above, Secondary Futures in New Zealand uses a range of innovative approaches to build capacity in different communities and make stakeholders think creatively about the future of education. It has two quite unique features: the wide participatory approach that is taken, canvassing input from stakeholders not usually heard in the debate shaping education policy, and protecting the independence of the project through the leadership of four Guardians with high profiles in the education and non-education sectors.

Futuresight is the multi-partnership English initiative that aims to build capacity for futures thinking through practical applications to help school leaders shape the future. The Futuresight toolkit explores key trends, experiences scenarios, helps participants reach consensus over a preferred future and compares this ideal with current policy and practice to gauge its potential to drive change.

Canada created two projects; the English-speaking system uses scenarios to forge dialogue around the future of the teaching profession in a revised schooling structure, while the French-speaking sector used *Schooling for Tomorrow* scenarios to build the "7th scenario" vision for their minority system.

Early involvement from the Netherlands focused on capacity building for visionary leadership in education, by stimulating creative thinking and addressing school design. A second project focused on creating an innovative new school design called Slash/21.

Phase Three is about widening international participation in the project, systematising the knowledge base, and launching new work on innovations in learning.

The previous "inner core" volunteer systems are continuing or launching new "futures thinking in action" initiatives to report back to this international programme, while a new set of volunteers has already committed: Austria, Australia, Finland, Norway, Scotland, and Sweden. Flemish Belgium, Chile, Denmark, Hungary, Japan, Korea, Mexico, and Turkey are considering whether to join the project.

Schooling for Tomorrow is building a new resource about the key trends shaping the future of education. It will consider not only the more familiar broad factors – ageing society, knowledge economy, globalisation, or technology – but less tangible ones such as changing values, social fragmentation, and new forms of governance. It will also reflect on their impact on education.

More information on *Schooling for Tomorrow* is available at:
www.oecd.org/document/6/0,2340,en_2649_35845581_31420934_1_1_1_1,00.html

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SECONDARY FUTURES
HOENGA AUAHA TAIOHI

YOU CAN FIND US AT:
LEVEL 2, DRUIDS CHAMBERS, WOODWARD STREET
PO BOX 8079, WELLINGTON
TEL: +64 4 499 6214
FAX: +64 4 499 6279
EMAIL: INFO@SECONDARYFUTURES.CO.NZ
WEB: WWW.SECONDARYFUTURES.CO.NZ

SECONDARY FUTURES
HOENGA AUAHA TAIOHI

WWW.SECONDARYFUTURES.CO.NZ