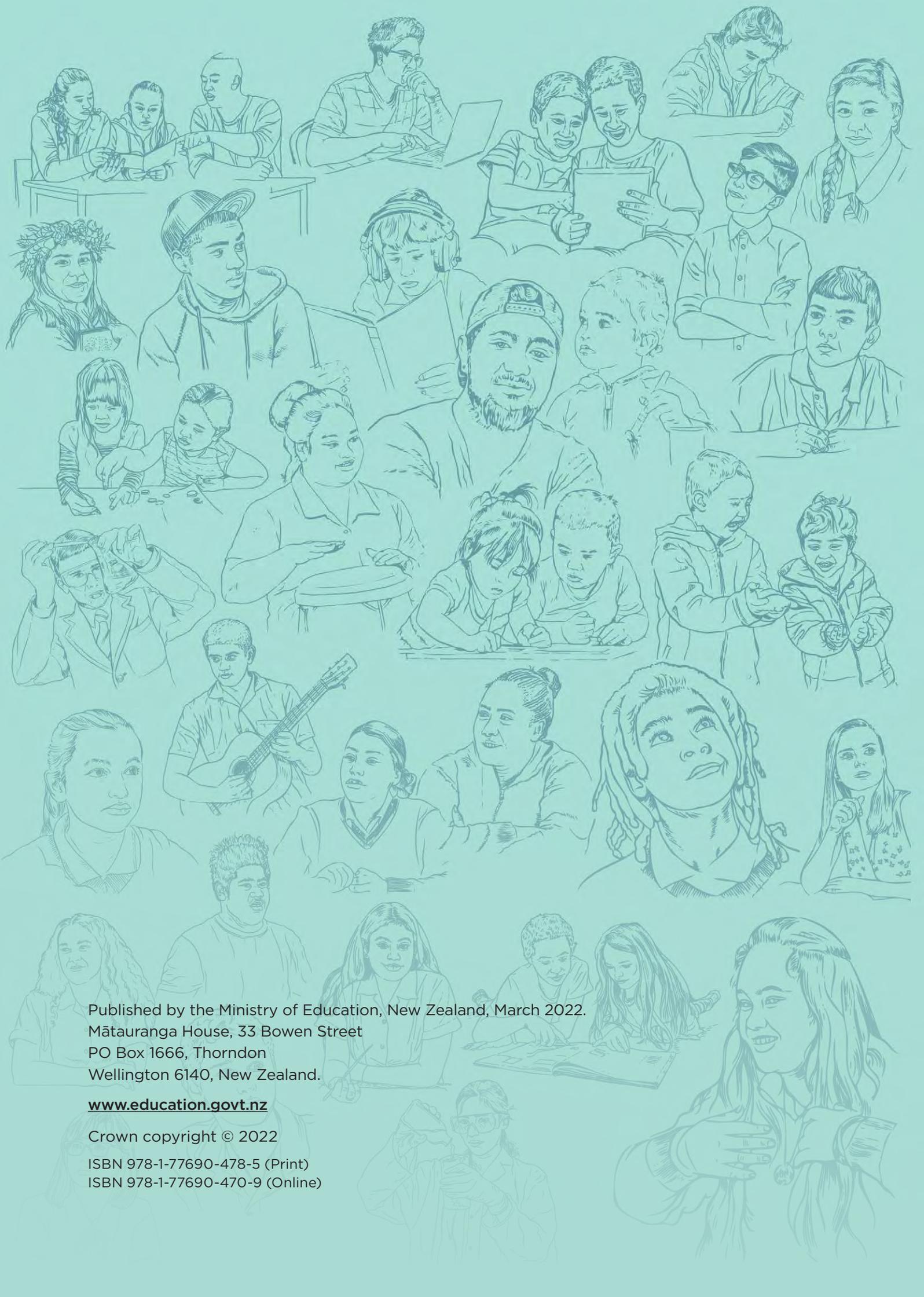


Insights that informed the Literacy & Communication and Maths Strategy

MARCH 2022





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Introduction

Literacy & communication and maths are foundational skills that are key to all learners' progress, achievement, and wellbeing. They allow our children and young people to participate in learning across the curriculum from early learning experiences through schooling; to access great education pathways; to contribute to the life of their community and country as engaged citizens; to explore and understand the world; to achieve positive health, wellbeing, and employment outcomes; and to realise the dreams and ambitions they have for their lives, communities, and nation.

The evidence is clear, however, that our system is not yet supporting all children and young people to succeed in literacy & communication and maths. This has consequences not just for their learning progress, but how each child and young person feels about themselves as a learner and whether they stay engaged in education. Creating a sustained improvement in the quality of teaching, learning, and support learners | ākonga experience is key to addressing this, so the Government has developed strategies to guide system-wide action along the educational pathway from early learning to secondary school. This will help early learning services and schools “ensure every learner|ākonga gains sound foundation skills, including language, literacy, and numeracy”¹.

Separate strategies have been developed for te reo matatini and pāngarau and for literacy & communication, and maths. This document describes the development process and insights gained for the *Literacy & Communication and Maths Strategy*: www.education.govt.nz/literacy-and-communication-and-maths-strategy

Over the past two years, Te Tāhuhu o te Mātauranga | Ministry of Education (The Ministry) has delved deeply into the issues that Aotearoa New Zealand faces in literacy, communication, and maths and the opportunities for improvement. To do this,

we have drawn on broader system strategies, looked at international and local evidence and studies, commissioned research and analysis, and held extensive conversations. From researchers to educational practitioners, sector leaders to learners and families, many voices have contributed their knowledge, experience, and expertise to understanding the context and designing the new strategy.

This document provides an overview of what we in the Ministry have learnt as we looked and listened. It summarises the learning-focused collaborative approach undertaken to develop the strategy. As we move from design to implementation, we will continue with our collaborative approach, aiming to create ‘a system that learns’ – one in which we continually learn from and with each other and where ‘pockets of success’ connect to enable improvement for all.

“ Improving equity and excellence in an education system that serves and grows diverse learners is a ‘wicked’ problem; complex, important, and enduring. To address it, we need to create a ‘system that learns’ – a system where we commit to learning, inquiring, and problem solving together in new ways, standing in each other’s shoes and trusting in each other’s intent. A system that cares deeply about each of its children and young people, and puts them at its heart².”

¹ Priority 4 of the Statement of National Education and Learning Priorities (NELP)

² CPA MAG report where this term originated can be retrieved from: [ELN+0324+CPA+Final+MAG+report_06+includes+Ed+Strategy+vision.pdf](https://www.cpa.govt.nz/ELN+0324+CPA+Final+MAG+report_06+includes+Ed+Strategy+vision.pdf) ([conversation-space.s3-ap-southeast-2.amazonaws.com](https://www.conversation-space.s3-ap-southeast-2.amazonaws.com)).

“Maths”: used in the strategy as an all-encompassing term to refer to the grouping of subject knowledge, understandings, and capabilities and that encompass all aspects of numeracy, mathematics, and statistics.

“Mathematics”: the exploration and use of patterns and relationships in quantities, space, and time.

“Statistics”: the exploration and use of patterns and relationships in data (within industry and tertiary institutions, this is sometimes called the data sciences).

“Numeracy”: Numeracy encompasses the knowledge, understandings, and capabilities that are needed to be able use mathematics and statistics purposefully in a wide range of situations including real-life contexts. Learners become numerate as they develop

their ability to apply mathematical and statistical knowledge and skills purposefully across all learning areas and in their lives to achieve their goals. Being numerate in Aotearoa New Zealand today involves an understanding of diverse cultural perspectives, privileging te ao Māori and Pacific worldviews.

“Literacy & Communication”: Including “communication” alongside literacy recognises that people communicate in a variety of ways. Literacy and communication skills are interlinked. Together, they set the foundation for learning across the curriculum and along all of the learning pathway. Being literate in Aotearoa New Zealand today involves an understanding of diverse cultural perspectives, privileging te ao Māori and Pacific worldviews.



We learned from the policy landscape

The Literacy & Communication and Maths Strategy is being developed within the context of system change. A range of strategies and action plans have already been implemented with the aim of re-shaping our education system to improve its ability to deliver equitable and excellent outcomes and enact Te Tiriti o Waitangi | The Treaty of Waitangi.

Listed below, you will find an overview of some of the key strategies and plans that are guiding change across the education system. These documents, and learning from the processes undertaken to create them, have helped guide our thinking about some of the shifts needed in the teaching and learning of literacy, communication, and maths.

National Education Learning Priorities

Retrieved from: <https://assets.education.govt.nz/public/Documents/NELP-TES-documents/FULL-NELP-2020.pdf>

The Statement of National Education and Learning Priorities (the NELP) is a set of priorities designed to guide those who govern licensed early learning services, schools, and kura. It seeks to focus their day-to-day work on things that will have a significant positive impact for children and young people. The priorities are:

1. Ensure places of learning are safe, inclusive and free from racism, discrimination, and bullying
2. Have high aspirations for every learner/ākonga, and support these by partnering with their whānau and communities to design and deliver education that responds to their needs, and sustains their identities, languages, and cultures
3. Reduce barriers to education for all, including for Māori and Pacific learners/ākonga, disabled learners/ākonga, and those with learning support needs
4. Ensure every learner/ākonga gains sound foundation skills, including language, literacy, and numeracy
5. Meaningfully incorporate te reo Māori and tikanga Māori into the everyday life of the place of learning

6. Develop staff to strengthen teaching, leadership, and learner support capability across the education workforce
7. Collaborate with industries and employers to ensure learners/ākonga have the skills, knowledge, and pathways to succeed in work.

Ka Hikitia - Ka Hāpaitia

Retrieved from: <https://www.education.govt.nz/ka-hikitia-ka-hapaitia>

Ka Hikitia - Ka Hāpaitia is a cross-agency Māori education strategy. It has five outcome domains that reflect key messages that have been heard from Māori for many years and from the growing evidence base about what works for ākonga Māori and their whānau:

- » **Te Whānau:** Education provision responds to learners within the context of their whānau
- » **Te Tangata:** Māori are free from racism, discrimination, and stigma in education
- » **Te Kanorautanga:** Māori are diverse and need to be understood in the context of their diverse aspirations and lived experiences
- » **Te Tuakiritanga:** Identity, language, and culture matter for Māori learners
- » **Te Rangatiratanga:** Māori exercise their authority and agency in education.

Action Plan for Pacific Education

Retrieved from: <https://conversation.education.govt.nz/action-plan-for-pacific-education>

The Action Plan for Pacific Education maps the Government’s commitment to transforming outcomes for Pacific learners and families. It includes five shifts based on what Pacific learners, families, teachers, leaders, and communities said matters to them in education:

- » Work reciprocally with diverse Pacific communities to respond to unmet needs, with an initial focus on needs arising from the COVID-19 pandemic
- » Confront systemic racism and discrimination in education
- » Enable every teacher, leader, and educational professional to take coordinated action to become culturally competent with diverse Pacific learners
- » Partner with families to design education opportunities together with teachers, leaders, and educational professionals so that aspirations for learning and employment can be met
- » Grow, retain, and value highly competent teachers, leaders, and educational professionals of diverse Pacific heritages.

The Literacy & Communication and Maths Strategy also learns from and reflects the [Early Learning Action Plan](#), [Learning Support Action Plan](#), [Curriculum, Progress and Achievement](#) work programme (including the [refresh of The New Zealand Curriculum](#)), [NCEA Changes](#), and the response to the Review of Tomorrow’s Schools.

New Zealand Disability Strategy

Retrieved from: www.odi.govt.nz/nz-disability-strategy

The New Zealand Disability Strategy guides the work of government agencies on disability issues. It is based on public consultation that prioritised the voices of disabled people and their whānau. Education is Outcome 1, which states: “We get an excellent education and achieve our potential throughout our lives”. This means:

- » Disabled people are consulted on and actively involved in the development and implementation of legislation and policies concerning education, including early childhood, primary, secondary, and tertiary education.
- » Access to mainstream education is inclusive (including policy, practice, and pedagogy).
- » Services that are specific to disabled people are high quality, available, and accessible.
- » Inclusive education is a core competency for all teachers and educators.
- » Decision-making on issues regarding education of disabled people is informed by robust data and evidence.

We learned from research and evidence

There is a wealth of research and evidence about the state of the current system and what could work to improve literacy & communication and maths teaching and learning in New Zealand. A broad and varied range of material was considered and informed the strategy direction, drawing upon both previously published work and specially commissioned reports.

A selection of key academic papers, articles, and reports that have contributed significantly to the strategy is listed below.

The Literacy Landscape in Aotearoa New Zealand

Retrieved from: <https://cpb-ap-se2.wpmucdn.com/blogs.auckland.ac.nz/dist/f/688/files/2020/01/The-Literacy-Landscape-in-Aotearoa-New-Zealand-Full-report-final.pdf>

In this paper, Professor Stuart McNaughton, Chief Science Advisor to the Ministry of Education, proposes a life course approach to literacy learning. He identifies four sensitive periods and three key transitions on the pathway from early learning to the end of formal schooling and describes constraints and enablers of equity and excellence and high-value instructional activities for each. Importantly, he reminds us that learning takes place within a network of influences – we need to take account of both immediate causes and the wider conditions that enhance or constrain learning and development.

“ We need to consider how to optimise learning and development across all ages – rather than looking at isolated, limited or piecemeal solutions. Only changing one variable at one point is unlikely to make an overall difference. Instead, changes during sensitive periods and at transitions are needed.”

Shifting the dial on literacy

Retrieved from: <https://assets.education.govt.nz/public/Literacy-and-Maths-strategy-development-in-2021/Shifting-the-dial-Full-document.pdf>

This internal Ministry of Education paper draws on a range of research to create a picture of literacy teaching and learning in New Zealand today and the barriers faced by some learners. It identifies potential system changes for improving literacy learning along the educational pathway. This paper provided a starting point for conversations during the development of the strategy.

“ The variation in achievement reflects opportunities to learn, starts early and persists. For schooling, we propose reviewing and, where needed, updating the core literacy teaching and learning supports. We need to build relationships and share power with learners, whānau, families and communities and value linguistic diversity in literacy teaching and learning.”

Education Review Office (ERO) reports on oral language, literacy, and maths teaching and learning in early learning services

Retrieved from: <https://ero.govt.nz/our-research>

ERO reports that early learning teachers and kaiako³ require help to enact deliberate teaching strategies to support all learners. This should involve growing teachers' understanding of oral language development and of how to capitalise on home languages as a foundation for learning other languages.

ERO also reports that the curriculum in most early learning settings provides children with a wide range of opportunities to explore maths concepts. However, low levels of content knowledge and the resulting lack of confidence limits the ability of some kaiako and teachers to engage children in the mathematics learning opportunities present in existing activities.

ERO finds that there are insufficient tools and support resources to lift teacher knowledge and practice in early learning settings. It highlights the importance of professional learning and development (PLD) and effective pedagogical leadership.

“ Early childhood environments are rich in resources and activities designed to engage and support children in becoming literate [however] educators are generally not aware of how effectively, or to what extent, their programmes and practices support later learning or achievement [in literacy].”

— Education Review Office, 2011

Pāngarau Mathematics and Tauanga Statistics in Aotearoa New Zealand

Retrieved from: <https://www.royalsociety.org.nz/assets/Pangarau-Mathematics-and-Tauanga-Statistics-in-Aotearoa-New-Zealand-Digital.pdf>

The Ministry of Education commissioned the Royal Society Te Apārangi Expert Panel to provide advice on refreshing the Mathematics and Statistics learning area of The *New Zealand Curriculum*. The Panel concluded that curriculum change alone would not be sufficient, and made recommendations for change and improvement across the education system.

“ While there is clear social concern over students' under-performance in mathematics and statistics, it seems to be acceptable to admit to being 'no good' at mathematics and statistics, and to regard mathematics and statistics as for 'other people' rather than being necessary and important for all. Given the right circumstances, everyone can learn mathematics and statistics, and a significant proportion can excel.”

³ 'Kaiako' is used here in the same way it is used in *Te Whāriki*, i.e., it is the term for all educators.

Progress and Achievement for Literacy and Mathematics & Statistics for Learners in English-medium Schooling Settings

Retrieved from: <https://assets.education.govt.nz/public/Literacy-and-Maths-strategy-development-in-2021/How-our-education-system-is-performing-for-Literacy.pdf>

and

<https://assets.education.govt.nz/public/Literacy-and-Maths-strategy-development-in-2021/Progress-and-achievement-and-the-context-of-mathematics-and-statistics-learning-in-New-Zealand.pdf>

These two internal Ministry of Education papers draw on findings from a range of national and international sources to develop a picture of learner progress and achievement and teachers' knowledge, experiences, and common practices in literacy, mathematics, and statistics in English-medium schools. Findings from international studies, including Trends in International Mathematics and Science Study (TIMSS) and Programme for International Student Assessment (PISA), were used to understand what is happening for learners in New Zealand compared to learners in other OECD countries.

“ While many learners are making good progress at an expected pace throughout year levels, the range of achievement at each year level is wide and many learners are achieving lower than either expected or desired. At the same time, we saw a wide variation in both achievement and progress within year levels, across sub-populations, and across aspects of literacy, mathematics and statistics. This variation in achievement is broader than many other comparable countries.”

Countries Improving in Maths

Retrieved from: www.education.govt.nz/literacy-and-communication-and-maths-strategy

This internal Ministry of Education paper looks at countries that have turned around declining mathematics performance. It concludes from this synthesis that solutions need to be multi-faceted.

“ These countries have not relied on a single initiative as a response. Responses have involved a range of initiatives or reforms across several areas including curriculum, school structure, professional development, and national assessments.”



We learned by listening to people

Real opportunities to make a difference to education come from the Ministry of Education engaging closely with the education community over time, so that we develop strategies and design services and resources that are responsive to people's diverse needs and contexts.

Conversations between the Ministry and people with a wide range of experience and perspectives were an important part of the development of the Literacy & Communication and Maths Strategy. This section describes our process and some of the insights shared.

During 2021, we held a range of hui, fono, and meetings across Aotearoa New Zealand to inform the development of the strategy. We met with and listened to educational leaders, teachers, learners, parents and whānau, and others from the wider community. We heard the perspectives of Māori and Pacific people. We met with unions and professional associations, employers and industry representatives, academics and experts, professional learning and development providers, members of the disability sector, people working with English language learners, and advisory groups such as the *NZC Curriculum Voices Group*.

We also invited feedback and comment through the Ministry of Education website.

Through this process, we heard from hundreds of people, representing a diversity of knowledge, experience, beliefs, and

perspectives. Some common themes emerged:

- » Learners want to learn from a curriculum that is meaningful to them.
- » Parents and whānau want more certainty about what their tamariki will learn.
- » Educators and parents want clarity about what ākonga need to learn, their progress and strengths, and the supports available to help them achieve.
- » Educators want more guidance and support to help them deliver consistent and high-quality teaching and learning experiences to learners.

The level of autonomy created through our highly devolved system places demands on teachers and leaders that can be challenging to meet. Teachers and leaders told us they want more guidance and support. At the same time, they wish to retain the ability to respond flexibly and appropriately to the learners in their local contexts. Ensuring greater coherence and clarity will enable teachers and leaders to be confident they understand and are meeting national expectations while also being adaptive to the strengths, needs, and expectations of their communities.

Māori perspectives on literacy & communication and maths

We had significant engagement with Māori including learners |ākonga and their whānau in both kura and schools. We also spoke with Māori business owners, industry leads, and representatives of mana whenua.

Participants in the hui placed huge value on centring te ao Māori concepts, beliefs, and practices across both strategies.

We were told that many Māori learners feel a sense of disconnection between their literacy and maths learning at school and their lives beyond school. They would be more engaged in learning if they could see its relevance to their lives and its practical application.

Participants in the hui also expressed a strong hope that the Literacy & Communication and Maths Strategy would incorporate practical components that can be readily adopted in education settings.

Engagement with Māori included an online hui with a group of leaders and kaiako from puna reo (teacher-run Māori early learning settings). We heard about the need for more resources and accessible professional learning and development that supports literacy and maths teaching and learning through a te ao Māori lens.

“ Take on board what has been successful for Māori in kura. Acknowledge it and utilise it; it works.”

“ We don’t always see ourselves as teachers of literacy and numeracy. We don’t all have the skills; therefore, don’t feel comfortable teaching outside our chosen fields.”

“ I only understand if they show me how to do the first question, but a lot of maths teachers expect us to already know.”

Pacific fono

Within the context of Auckland’s lockdown we held fono with representatives of Auckland’s Pacific Island communities via Zoom. They included educators, parents, children and young people, church elders, and other community members.

We heard that Pacific parents want support to be more involved in their children’s learning. Some parents and families need help to overcome their lack of confidence, often with language, so they can “get behind their kids”.

It was also pointed out that there is a wealth of research from Pacific academics and leaders on what works well for Pacific learners, but participants could not see that it was always being used. Participants in the fono expressed a desire to see more Pacific teachers in roles of pedagogical leadership and the provision of authentic pathways and leadership opportunities for Pacific young people.

Parents need to be supported so they understand how to support their children, minimise the distractions and provide better structure for their learning.

It is often hard to get information from teachers and schools.

There is a desire for easy access to information that can be understood and used to help support children.



Employer and industry focus groups

The Ministry convened and facilitated employer and industry hui with a varied group of representatives. The participants were drawn from a range of professional and sector bodies and industry training organisations. They included public sector employers and others in business and industry.

We heard from the participants in these hui that a basic level of foundational skill in literacy, communication, and numeracy is necessary for young people to participate in daily life after school. There was consensus that strong skills in these areas not only help employees with their initial transition from school into work and vocational training, but also support later transitions between roles and sectors. They told us that currently, people in industry are spending time upskilling trainees and employees to meet basic levels of literacy and numeracy.

Like participants in other hui, industry and employer representatives were concerned about the lack of connection between teaching and learning and the real-life application of knowledge and skills. Learning needs to be relevant and reflective of real-life, and go hand and hand with wellbeing, if it is to support learners to be 'world ready'. Industry leads believe that education is often taught in a vacuum or without sufficient context. Graduates from the education system often need further support to be better equipped in employment. Participants in the hui want what students learn at school to be more relevant to their future careers.

Disabled people's organisations

Participants at some of our meetings expressed views on the education system's attitudes about difference and called for unconscious bias to be eliminated from our places of learning. Disabled people and their advocates spoke of the need to address the 'ableism' and discrimination that exists within the current system. Being treated as different can be discouraging and demotivating.

We learned that the current definition of literacy does not work for disabled learners. A better definition would be broader, reframing literacy as "effective sense-making and communication in context". Likewise, a broader definition of maths that encompasses structured thinking and problem solving would be more inclusive of disabled learners.

Participants from disabled people's organisations called for approaches to disability that normalise inclusive practice and for equitable funding that would enable the system to address the needs and follow the strengths and passions of every learner. They also asked for a new model for understanding progression that recognises that different learners will progress at different rates and that values progress for diverse learners.

" I didn't like getting pulled out of the class for my support, small group instruction. I missed important learning that I would have got from being with the whole class. There is a bigotry of low expectations [for learners with disabilities]. People get labelled 'slow' or 'disabled'."

" The goal of literacy and numeracy learning is to learn enough that you can learn on your own/to teach yourself."

Regional hui

Several regional hui were convened to speak with and hear from parents and whānau, teachers, leaders and the wider community to find out more about their own lived experiences, and what they considered was needed in the new strategy. These were facilitated by a third party.

At our literacy and communication hui, participants told us they wanted the strategy to consider:

- » Access to differentiated, equitable, and evidence-based professional support for all educators throughout their career, with time allocated to embed and sustain change.
- » Easy access to evidence-based resources that are inclusive of every learner.
- » Greater emphasis on literacy teaching, assessment, and learning within initial teacher education.
- » A broad and inclusive definition of literacy.
- » The development of evidence-based national literacy guidelines for schooling that create clarity about the evidence-based teaching, learning, and assessment approaches that work for diverse learners.
- » The construction of national literacy progressions that clearly describe pathways for literacy teaching, assessment, and learning in schooling.
- » Promotion of mutually beneficial home and school relationships.
- » Consistent and coherent approaches to supporting transitions along the pathway.

Participants at our maths hui told us they wanted the strategy to consider:

- » Increasing support to build teacher content and pedagogical knowledge throughout their career. We need to take away the shame that exists where educators don't have strong maths knowledge.

- » Ensuring te ao Māori is authentically woven throughout teaching and learning.
- » Developing clear Ministry direction on the teaching practices that are most effective and describing how they can be combined into a coherent and integrated approach to teaching and learning.
- » Ensuring all teachers in schools are able to support accelerated numeracy learning.
- » Developing an improved numeracy progress tool that supports formative assessment.
- » A centralised resource hub with quality resources that support learning for learners while decreasing the pressure on teachers to create their own resources.
- » Parity in resourcing throughout the system. Literacy and maths are both very important, but there's more support for literacy.
- » The central importance of engagement and partnership with whānau and the need to foster positive mindsets towards numeracy, mathematics and statistics.
- » The need for greater continuity between early learning centres and the schools they're feeding into to support maths learning across this significant transition.

“ There needs to be sufficient learning support in the area of maths. We need culturally sustaining resources and guidance. There needs to be a consistent shared understanding of progress. Early Learning needs a lot more support. We need to keep the definition of literacy broad and linked to wellbeing at school and in life. The Ministry should lead and sustain a coherent system.”

Literacy academics and experts

We presented what we had learned about literacy and communication to a group of academics and experts. We wanted to gauge their response, test the direction of our thinking, and learn from their expertise. The expert groups asked that the strategy includes:

- » Finding agreement on a broader, definition of what literacy and being literate is, including digital literacy.
- » Considering Te Tiriti o Waitangi up front and embedding te ao Māori in the work by involving Māori early and meaningfully.
- » Focusing on creating opportunities for developing the key competencies within the context of literacy learning.
- » Strengthening literacy leadership expertise across the system.
- » Shifting from a predominant focus on reading and writing to the multiple modes of literacy that include speaking, listening, viewing, and presenting.
- » Supporting teachers to better understand the reciprocal relationship between oral language⁴ and literacy.
- » Framing literacy learning within a socio-cultural focus in schools, and along each learner's educational pathway.
- » Developing kaiako and teachers' understandings about the pedagogy needed to make the rich diversity of learners' languages, cultures, and identities a valued and normalised part of teaching and learning at school.
- » Supporting kaiako and teachers to develop a broad base of knowledge, skills, competencies, and attitudes, to enable more effective teaching for diverse learners and reduce teachers' reliance on specialist support.
- » Valuing learners' home languages, oral literacies, and family stories and fostering the pedagogical knowledge and capabilities required to ensure their integration within literacy teaching and learning at school.



*“Literacy isn’t a thing we do,
it’s the thing we do.”*

4 Oral language encompasses any method of communication used as a first language, including New Zealand Sign Language and other approaches used to replace or augment speech (such as Communication Assistive Technology or Augmentative Alternative Communication).

Mathematic and statistics experts, including the Numeracy, Evidence, and Challenge Hui

In early 2021, the Ministry brought together a diverse group of academic experts and sector representatives to explore what evidence about progress and achievement has to tell us about learning within *The New Zealand Curriculum* and to contribute further insights and advice from their own research and experience.

The group identified several challenges within our current system, including:

- » Challenges regarding teacher capability and confidence, with some teachers feeling they do not have the necessary subject knowledge to effectively teach maths.
- » There is a lack of understanding of culturally sustaining pedagogy in the teaching and learning of numeracy, mathematics, and statistics.
- » PLD delivery can be fragmented, inconsistent, and lacking in cohesion.
- » Teachers are turning to any number of varied resources to support their teaching practice in maths, including resources created overseas.

Potential solutions that emerged during this conversation included:

- » Engaging with whānau and communities to raise awareness of the importance of maths and working in partnership with them to create local content.
- » Cultivating long-term PLD communities that build connections between PLD providers, schools, and teachers.
- » Developing online PLD that teachers can access in their own time (or example, videos of effective practice).
- » Developing a centralised website where teachers and leaders can access high quality, culturally-sustaining, and curriculum-aligned, resources, including pathways to access additional support and expertise.

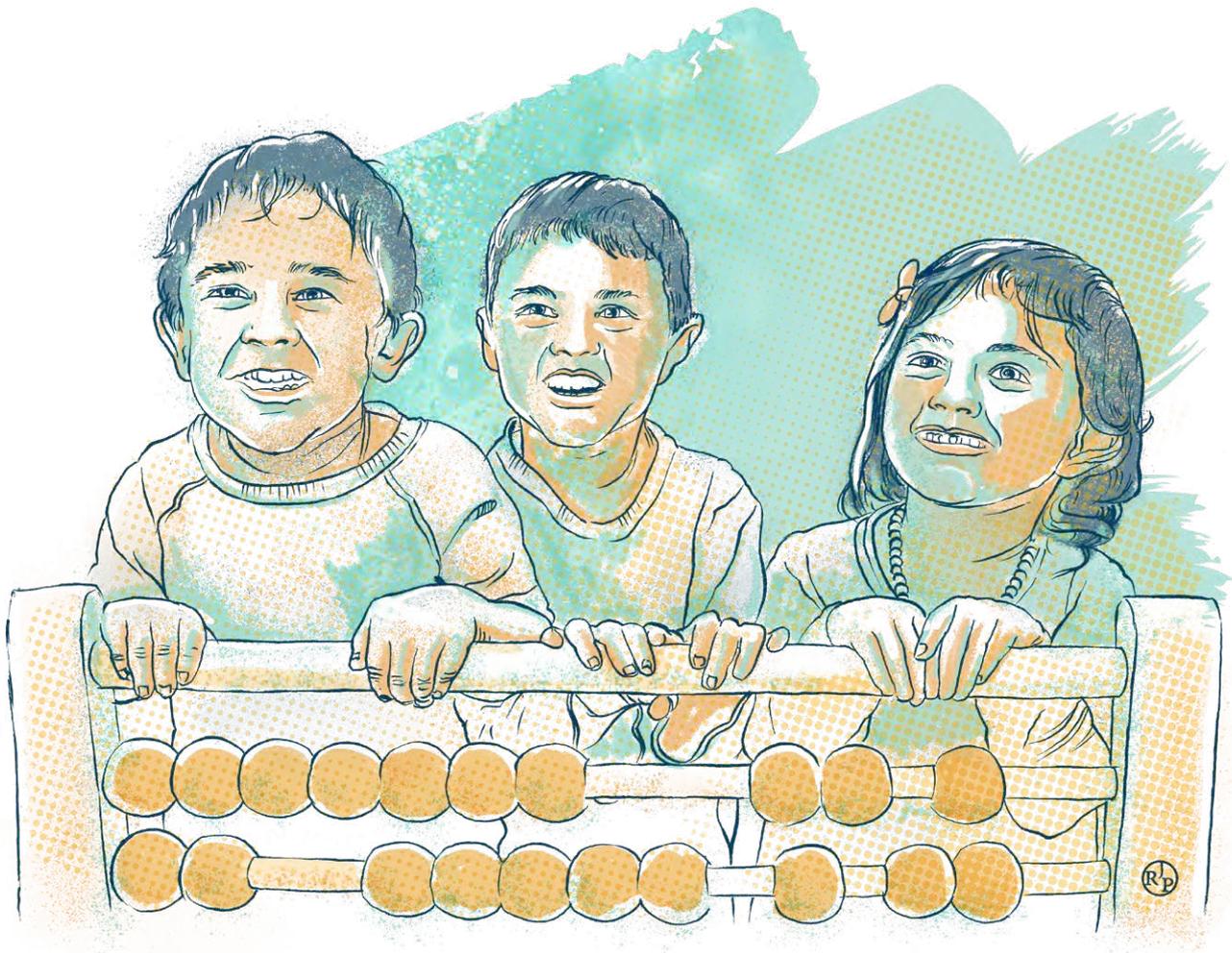
“Some teachers just do not have the content knowledge to do higher levels of maths / NCEA, so they really struggle to teach at these levels. The current PLD model is not always equitable in distribution to schools and also some providers do not have the necessary pedagogical content expertise. There should be support for using local knowledge and bicultural contexts that is privileged and respected.”

New Zealand Statistical Association Education Committee

We spoke to the New Zealand Statistical Association Education Committee to get their advice on the place of statistics literacy, competence, and knowledge within the new strategy.

We heard that the committee believes statistics should be explicit within the curriculum. They suggested the whole education workforce should be 'on board' with statistics and know how to use data and statistics effectively. It should be integrated throughout the curriculum, as evidence shows that learners with higher literacy skills often achieve more highly than others in statistics. They recommended beginning with more effective professional learning and development targeted at statistics knowledge and pedagogy.

“ We are living in a data-based evidence society – we need to prepare our students to live in this world. Citizenship skills – we need to be aware of fake news and readily access data in every discipline. We must remain current with research in statistics here and internationally and prepare teachers for what’s coming up next and maintain their knowledge and skills.”



Ngā mihi!

Throughout development of the Literacy & Communication and Maths Strategy, we have been pleased to hear that the range of groups and individuals with whom we engaged, valued and appreciated the collaboration as much as we did. We are grateful for the genuine, open, and generous way all who participated offered their experiences, knowledge, expertise, and opinions.

The Literacy & Communication and Maths Strategy informed by the research, engagement and learning described in this document is available on the Ministry of Education's website:

www.education.govt.nz/literacy-and-communication-and-maths-strategy

We look forward to continued collaboration over the coming years as we design and implement the strategic actions set out in the strategy.





TE TĀHUHU O TE MĀTAURANGA
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