



## Briefing Note: Digital and Data for Learning briefing

<b>To:</b>	Hon Chris Hipkins, Minister of Education		
<b>CC:</b>	Hon Kelvin Davis, Associate Minister of Education Hon Jan Tinetti, Associate Minister of Education Hon Aupito William Sio, Associate Minister of Education		
<b>Date:</b>	16 December 2020	<b>Priority:</b>	Medium
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<b>Messaging seen by Communications team:</b>	No	<b>Round Robin:</b>	No

### Purpose of note

The purpose of this paper is for you to:

- **Note** the attached 'Digital and Data for Learning' briefing which has been produced collaboratively by the Education System Stewardship Forum; and

**Noted**

- **Agree** that this cover note and attached briefing will not be proactively released at this time because the advice it contains is under active consideration.

Agree ☒ **Yes** ☐ No

### Summary

1. The Education System Stewardship Forum (ESSF) have worked collaboratively to produce a briefing for you and the Associate Ministers of Education about next steps for the Education System Digital Strategy.
2. The ESSF membership comprises Chief Executives from the Ministry of Education, the Tertiary Education Commission, the New Zealand Qualifications Authority, the Education Review Office, Education New Zealand, the Teaching Council of Aotearoa New Zealand, Network 4 Learning and Te Aho o Te Kura Pounamu | The Correspondence School.

3. The attached briefing signals the shared intention of ESSF members to refresh the Education System Digital Strategy (2015-2020) in 2021. It seeks your support to “work with the education sector and stakeholders on the Strategy and to expand its scope, building on the momentum gained during the COVID-19 response as education providers moved quickly to deliver education online.”

### Next steps

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4. This briefing is attached for your consideration over the summer holiday period and I welcome discussion at your convenience in the New Year

### Proactive Release

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5. We recommend that this briefing note and attachment is not released at this time because the advice it contains is under active consideration.

### Annex

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- *Digital and Data for Learning* | Briefing for Education Ministers



Iona Holsted  
Secretary for Education  
**Chair, Education System Stewardship Forum**



Hon Chris Hipkins  
**Minister of Education**

16/12/20

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## **Digital and Data for Learning**

**December 2020**

**To** Minister of Education Hon Chris Hipkins

**CC** Associate Ministers Hon Kelvin Davis, Hon Jan Tinetti and Hon Aupito William Sio

**From** Iona Holsted, Chair, Education System Stewardship Forum

**Date** 16 December 2020

### ***Purpose***

This briefing signals our intention to refresh the Education System Digital Strategy (2015-2020) in 2021 and seeks your support to work with the education sector and stakeholders on the Strategy with an expanded scope. This will allow us to build on the momentum gained during the COVID-19 response as education providers moved quickly to deliver education online.

We have a unique opportunity to lock-in the shift to digital to create a resilient education system and broaden educational opportunities for learners of all ages in both face-to-face and virtual learning settings.

### ***Briefing Structure***

1. Background and context
2. Refreshing the Education System Digital Strategy (2015-2020)
3. Expanding the scope of a refreshed Digital Strategy to:
  - Address barriers to access, ensuring learners of all ages can benefit from high quality online and flexible learning opportunities
  - Build a trusted data ecosystem with the learner and those who support their learning at its heart
  - Take a planned, deliberate approach to promoting digital innovation, partnering with educators, interested stakeholders and the EdTech sector to support New Zealand's education system and create international economic opportunities.

## **1. Background and context**

1. Our education system vision is for lifelong learning that is inclusive, equitable, connected and future focused.
2. Digital technologies have a major role to play in realising this vision and continue to profoundly affect the way we communicate, learn, and access and use information. Digital fluency is recognised alongside literacy and numeracy as a necessary foundational skill for success in life, learning and work.

3. Education agencies are taking a coordinated whole-of-system approach to realise a vision for a learner-centred system that delivers a seamless education experience from early childhood throughout the life of a learner. In 2015 the education agencies and other key education bodies endorsed an Education System Digital Strategy (Digital Strategy), committing to work together to align actions and investments to achieve the desired outcomes.
4. The Digital Strategy needs updating. Education agencies propose refreshing the Digital Strategy during 2021 with the education sector and stakeholders, drawing on experience to date and what is being learned through the COVID-19 pandemic.
5. COVID-19 has shown the critical role of digital technologies in ensuring education continues for learners who because of illness, quarantine, lockdowns, extreme weather or other events must learn off-campus. As a result of COVID-19, New Zealanders have become less tolerant of even mild illness in learning and workspaces, increasing the need to be able to learn or work easily from home.
6. It has never been more urgent to address barriers to online learning. The sudden reliance on digital technologies as a result of COVID-19 has exposed critical weaknesses in our education system, including a lack of access to devices and the internet for a significant number of learners, and variable teacher/lecturer capability in designing and facilitating quality online learning experiences.
7. While COVID-19 has exposed weaknesses, it is also generating innovation and opportunities we can leverage. There is potential for education agencies to more actively promote educational technology (EdTech) innovation and to support stakeholders, such as iwi, who have a high interest in using digital to achieve their aspirations.
8. The rapid shift to online learning, increasing uptake of NCEA online and growing use of micro-credentials are demonstrating the potential to make learning and assessment more flexible, and to broaden access to education for people of all ages. Today's technologies can enable a genuinely learner-centred system, improving transitions as learners progress along their learning pathways, and enabling their data to follow them as they move from one education setting to the next.
9. Education agencies are committed to working together and with other government agencies to achieve equitable access to high-quality digitally enabled teaching and learning, to build digital capability and system resilience, and to improve access to education information for learners, whānau and communities.
10. This includes exploring what is needed to better support international students, protect our reputation as a world-leading education provider and provide for jobseekers wishing to up-skill. It includes working across government to support initiatives to address barriers to digital access.

## **2. Refreshing the Education System Digital Strategy**

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11. The Education System Digital Strategy, Transforming Education for the Digital Age (2015-2020) was developed and endorsed by 11 education sector bodies in 2015<sup>1</sup>. The aims of the Strategy were to:

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<sup>1</sup> Ministry of Education, Tertiary Education Commission, Careers NZ (now part of TEC), New Zealand Qualifications Authority, Education Review Office, Education New Zealand, Te Kura, Education Council (now Teaching Council), Network for Learning, Education Payroll, Research and Education Advanced Network New Zealand.

- Create a connected, secure student-centred online ecosystem that enables learners and ākonga of all ages to experience a rich, seamless education throughout their lives
- Provide equitable access to high-quality educational opportunities for learners and ākonga of all ages, wherever their location and whatever their learning needs
- Improve the use, quality, security and accessibility of learner data so that we build trust in the information, provide opportunities for collaboration locally and regionally, and improve our knowledge of 'what works' for students and the sector
- Reduce burdensome administrative tasks, freeing educators and leaders to focus on achieving better outcomes for learners and ākonga and reducing the need for learners to tell their stories multiple times.

12. We have made good progress in some areas. Since the Digital Strategy was agreed, education agencies have:

- Mandated Digital Technologies | Hangarau Matihiko as part of the national curriculum from 2020
- Expanded NCEA online assessment; in 2020, 58 exam sessions (approximately two-thirds of all exams) across 21 subjects have entries from over 35,000 students (24 per cent of students with an external entry) from almost 300 schools. Network for Learning is providing network assurance checks for schools and monitoring schools' networks and systems during the exam period
- Begun development of the Te Rito learner information sharing platform, providing the foundation for a fully connected and collaborative digital ecosystem for New Zealand education
- Launched a suite of information products via Ngā Kete to help tertiary and vocational providers make informed investment decisions
- Launched Hapori Matatū, making it easier and faster for teachers to access the Teaching Council's online services and renew certification online
- Begun work to establish Tiro Whetū, a new online careers system to support learners and workers throughout their lifetime to plan and manage their careers
- Improved online safety and security for schools and learners by expanding digital safety and security services offered by the Network for Learning
- Begun implementing Te Mana Tūhono through the Network for Learning, which includes connecting school classrooms to next-generation WiFi (WiFi-6) to support more devices on the schools' network, bandwidth-demanding apps like video, and critical programs like NCEA Online
- Begun developing a new Education Resourcing System for phased delivery, with the first phase already live, to replace a legacy early childhood and schooling funding system
- Developed a Digital Transformation Blueprint, that subject to funding, will establish the foundational infrastructure needed for the Ministry of Education to meet its operational demands and enable Future Education reforms
- Begun to address the digital divide by providing devices to schools for learners who don't own a device and connecting homes of school-aged children to the internet.

13. Refreshing the Digital Strategy is timely, aside from its 2015-2020 timespan. While we have made progress, we face persistent challenges:

- COVID-19 has exposed weaknesses in the education sector's capability to move quickly to distance learning and ensure a quality online learning experience for all
- Workforce capability to use digital technologies effectively for teaching and learning is still highly variable
- Equitable access to devices and the internet off-campus is still an issue for many children, young people and adults wishing to upskill
- Tactical ad-hoc investment in our highly devolved education system is adding to the administrative burden for teachers, leaders and administrators e.g. education agencies and providers use a



plethora of apps, channels and systems to reach the same audience, and are largely responsible for managing and upgrading their own IT infrastructure

- We lack enough curriculum resources for Māori medium education and for learners of te reo Māori; this is also true for Pacific learners
- Demand for digital skills continues to grow
- Job losses as a result of COVID-19 means many people need to upskill quickly
- Digital security, safety and privacy are growing concerns, along with data security and data sovereignty.

14. We intend to use the opportunity of refreshing the Digital Strategy to review progress to date including reviewing our investments in IT, identifying gaps and prioritising future effort and investment with a view to agreeing a joint IT investment strategy.
15. The success of the Government's future education reforms will depend on modernised digital services. New technologies enable integrated, system-wide approaches to support learners and their whānau, teachers, providers, vendors/suppliers, and agencies, but will need significant collaboration and investment to implement.
16. A strong pedagogical framework is also needed to guide best practices in a flexible/online learning environment and help ensure technical solutions are designed to support equitable learning outcomes.
17. As we continue to invest in digital for education, we must also invest in measures to mitigate risk; supporting learners to become capable and discriminating users of digital technology, protecting data from misuse, and investing in cyber safety and security capabilities and awareness. This would include providing clearer guidance on the safe and appropriate use of technology, such as when it is appropriate to introduce technologies for children's learning, how to manage screen-time and how to best protect children and young people from digital harm. Education agencies are working alongside DIA on an All-of-Government strategy to help improve online safety.

### 3. Expanding the scope of a refreshed Digital Strategy

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18. The Digital Strategy endorsed in 2015 was largely focussed on establishing foundational digital infrastructure. The Strategy was not widely consulted on, given its somewhat technical nature. The priority at the time was that education agencies agree to a joint approach to planning and investment for digital infrastructure and services.
19. Refreshing the Digital Strategy gives us the opportunity to expand its scope in collaboration with the education sector and stakeholders, with a particular focus on addressing barriers to access, improving workforce capability, building data capability and leveraging the potential for digital innovation to help solve educational challenges. We have the potential to leverage what we've learned during the COVID-19 pandemic to make blended and distance learning an integral part of our education system.

#### *Addressing barriers to access*

20. While many New Zealand learners benefit from effective use of digital for teaching and learning, a significant proportion are missing out.
21. Achieving digital equity for learners means ensuring access to:

- High-quality learning and assessment facilitated by educators with the skills needed to use effective digital pedagogies, supported by well-designed online curriculum resources, tools and systems
- A suitable device and safe and secure internet at home or off campus
- Reliable, secure, up-to-date IT in early learning services, schools and tertiary institutions.

22. Achieving equitable access is critical, but it's complex and needs a whole-of-system response.

Education agencies are working with DIA on the Government's Digital Inclusion Blueprint to address the technical challenges, and build the trust, motivation and skills that are necessary to success.

### *Building workforce capability for high quality teaching, learning and assessment*

23. Achieving equitable and responsive digitally enabled teaching and learning requires educators who have:

- pedagogical and curriculum design and delivery skills specific to online learning, including how to use digital to best effect in classroom, distance learning and blended settings
- well-designed curriculum resources that are accessible, easy to navigate, use and adapt; including resources designed to meet the needs of Māori and Pacific learners, and learners with specific learning needs
- a trusted, safe and secure digital learning environment.

24. Working with the sector to refresh the Digital Strategy would provide the opportunity to seek input from educators on what constitutes high quality digitally-enabled pedagogy and how to build capability, with a view to supporting all educators to have the confidence and competence to incorporate digital technologies into their teaching practices.

25. This could include reviewing whether initial teaching education (ITE) is appropriately preparing teachers to deliver teaching remotely. COVID-19 has forced ITE providers to be more innovative in how they deliver practical experience to teachers in training. There is potential to take the lessons learned during the pandemic to explore how changes made by providers could help the 2020 cohort of new teachers deliver services remotely more confidence.

26. Refreshing the Strategy would provide opportunity to consult on the potential for digital technologies to help meet the strengthened requirements of the new Education and Training Act 2020 to give effect to te Tiriti o Waitangi, including the potential to partner with iwi on projects that use digital means to achieve their education aspirations.

27. Existing policy settings somewhat constrain our ability to realise the benefits of more flexible access to learning that digital technology enables. Consulting with the education sector and wider public would include exploring the appetite for a more flexible, open, learner-centred system enabled by digital technologies.

### *Access to a suitable digital device and internet connectivity*

28. Learners with access to an appropriate device and the internet at home achieve better learning outcomes than those without when they are appropriately supported, such as having access to digital and educational support for them and their whānau or caregivers<sup>2</sup>.

<sup>2</sup> <https://www.educationcounts.govt.nz/publications/schooling/equitable-digital-access-to-the-internet-beyond-school-a-literature-review>

29. We estimate more than ten percent of learners do not have access to a digital device suitable for learning and/or the internet with enough bandwidth to support learning at home. These learners are disproportionately from low socio-economic backgrounds, Māori, Pacific people, or learners with disabilities.
30. Achieving equitable access is critical if all learners are to benefit from online learning and assessment opportunities. Equitable access is necessary for system resilience and continuity of learning and assessment when disruptive events close education institutions, such as COVID-19, earthquakes or extreme weather conditions. The uptake and benefits of NCEA Online cannot be fully realised without equitable access to suitable digital devices and internet connectivity.
31. Achieving equitable access could also be leveraged to make learning more flexible and broaden access to education for all New Zealanders.
32. In response to COVID-19, the Ministry took steps towards closing the digital divide, providing devices to schools and connecting households to the internet. This went some way to address the immediate issue, but support was partial and temporary.
33. Addressing the digital divide requires a whole of system response, involving government agencies, communities and the private sector. Education agencies are contributing to a cross-government digital inclusion strategy being led by DIA, and we are also considering options to work alongside NGOs and other partners (such as Manaiaakalani, charitable trusts and banks) to improve digital access.
34. Refreshing the Digital Strategy would enable us to further explore the role of the centre in supporting equitable access to devices, including working with schools and tertiary institutions to help equip educators and users to make best use of digital technologies for learning.

*Access to reliable, secure, up-to-date IT in EC services, schools and tertiary*

35. Equity is also an issue in relation to IT infrastructure and services. Because IT contracts, management, maintenance and upgrades are the responsibility of education providers, IT can impose significant burdens and carries risks where poor decisions impact costs, performance and security.
36. These issues will need to be addressed as the reliance on digital technologies for learning and assessment continues to grow, as for example, NZQA increasingly requires schools participating in NCEA Online to meet security and reliability standards in their IT networks.
37. A possible approach to test with the sector would be to provide a set of minimum expectations and make specialist services available, while allowing an appropriate degree of choice. The Network for Learning already provides a range of services through Te Mana Tūhono which could be expanded to help resolve investment cycle problems, raise capability and protect against cyber-security threats.
38. The investment in Te Rito provides the technology platform to connect the education sector, enabling students' information to travel with them, providing the means for collaboration across the sector and with parents and whānau, and significantly reducing the administrative burden on teachers and leaders. By building on the investment in Te Rito, there is potential to provide a secure, centrally funded and managed common platform capable of supporting a wealth of curriculum tools and resources.



*Building a trusted data ecosystem that enables improvements in teaching and learning*

39. Data that is useful, trustworthy and accessible is a critical asset, providing insights and informing decisions at every level of society.
40. Public demand for open, accessible data continues to grow, but at the same time concerns about data ownership, privacy, security and governance are also increasing.
41. There is a wealth of information generated in education every day, but this is held in multiple, disconnected systems, is not always accurate or timely, and is often not easily accessible by those who need it; be they learners, educators, parents and whānau, employers, careers advisors, policy makers, researchers or communities. In addition, many educators, leaders and administrators lack the tools, fluency, and pedagogical knowledge to use data to change policy and practice.
42. Many education providers do not have adequate measures in place to protect data or respond to cyber-attacks or security breaches, and in many cases current data collection and sharing practices do not comply with recent changes to the Privacy Act. This is being partly addressed in schools through the opt-in Te Mana Tūhono programme, which includes services to protect school data from cyber-attacks, but more work is needed as cyber-security risks increase.
43. Education agencies are committed to working together to unlock the value of data and information as a critical asset for improving educational outcomes, founded on a vision for a trusted, secure, interconnected digital ecosystem for New Zealand education. We are investing in learner-centred systems to give learners access to their online learning portfolios and records of learning throughout their learning journey.

*Building trust in data quality, use and protection*

44. Realising the benefits of the investments in a data ecosystem is dependent on building trust in the quality of the data and the protections in place to safeguard data collection, storage, sharing and use.
45. Critical to improving equity and excellence in the system is ensuring that programmes, projects and interventions are implemented with fidelity, within culturally affirming frameworks, and with a clear line of sight to learner outcomes. Work is continuing to improve the overall evaluative capability of the sector, to move beyond 'input and output' measures to capture information on outcomes. We are aiming to make this information more accessible and visible to those who can use it to make a difference by creating a strong permissions environment, and information sharing capability.
46. Concerns and mistrust about the quality, timeliness and security of data are evident at every level of the system. At the same time there is increasing public demand for openness and transparency, which can only be achieved by making reliable information and data available to those who need it and being transparent about how decisions are made on what data is held, for whom and for what purpose.
47. This means providing trustworthy data in ways that make it easy to access and understand, for example, using common data standards, tools and interoperable systems so that learners, parents/whānau and educators experience a consistent view along the education pathway. It means ensuring the data is reliable, accurately reflects the individual's situation and needs, and is used in ways that enhance mana and wellbeing.

*Issues for discussion*

- How to manage security across the ecosystem and adherence to privacy regulations as more people and organisations have the potential to access, share and analyse sensitive data
- How to manage complex accountabilities as more systems share more data in more ways
- How to address issues of data ownership and sovereignty, including Māori Data Sovereignty and data governance as we work to uphold and respect our obligations under Te Tiriti o Waitangi
- How to build the capability of communities, individuals and iwi to gather, store and analyse information.

**Promoting and supporting digital innovation**

48. New Zealand has a history of successful digital innovation in both digital practices and technical applications. Education agencies have provided some support for digital innovation (e.g. in the development of assessment tools and supporting Manaia Kalani's outreach programme) but there is potential to do far more.
49. Promoting and supporting the EdTech sector in a more planned and deliberate way could have benefits for New Zealand's education system while also helping create international economic opportunities. Several successful EdTech innovations began here before going global, such as Education Perfect, Hapara and more recently, Amy, which uses AI technology to personalise mathematics learning.
50. There is also potential to do more to support innovative solutions in the sector, such as those being developed by iwi to develop and teach their own curricula and reach members of their iwi who live outside of their tribal areas.

**For Discussion****Our intention is to work with the sector to refresh the Digital Strategy in 2021 with an expanded scope.**

The Digital Strategy was largely focused on establishing foundational IT infrastructure. Refreshing the Strategy provides the opportunity to:

- expand the scope of the Strategy, e.g. including addressing the digital divide, building educator capability, building a trusted digital ecosystem and keeping learners safe online
- reflect what is being learned during the Covid-19 pandemic
- work with the education sector and interested parties on how to make blended and distance learning an integral part of education delivery
- work collaboratively on short and long-term investment plans for IT to close the digital divide, lift digital capability across the system, and to maintain and update existing technologies
- explore what level of digital standards and services should be provided centrally
- partner with the EdTech industry to support New Zealand's education system and create international economic opportunities
- partner with key stakeholders, such as iwi, to promote and support digital innovation.

***Funding implications***

51. Achieving the transformation envisaged by the Digital Strategy will require significant investment.
52. While there is strong support by education agencies for the Digital Strategy, lack of a funded and co-ordinated investment plan is a barrier to its implementation.
53. The education sector (schools, parents and providers) will continue to invest in technologies regardless, but a sector-wide, coherent investment approach has the potential to improve the way we spend existing funding; reducing ad-hoc spending, reducing duplications, and improving efficiencies.
54. Because education providers are largely responsible for their own IT infrastructure and systems, there is currently little consistency, interoperability or coherence across the education system. Right now, learners and educators must start again each time they move from one education setting to the next. Their data does not go with them, they require new logons (usually many), and must learn a new set of applications.
55. There is considerable potential for education agencies, the education sector and all-of-government to take a joined-up approach and design solutions that are common and interoperable, such as digital access, digital identity and high-quality online curriculum resources.
56. Work underway on Te Rito, Tiro Whetū, NCEA Online and other digital initiatives, is demonstrating how this approach can enable the design of solutions that create a genuinely student-centred education system for learners of all ages.

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