Practical innovations in education and training in rural and remote communities
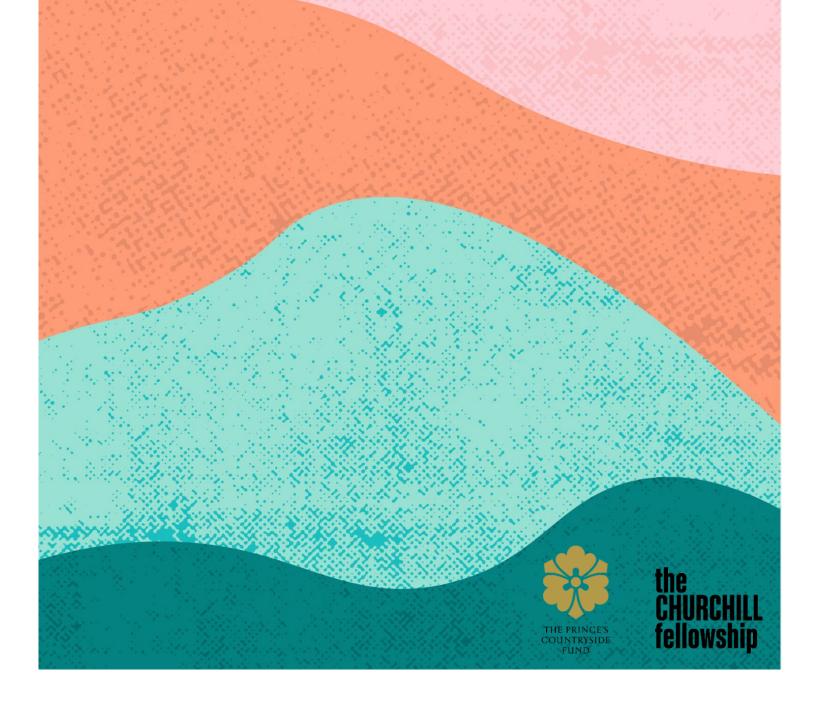
Churchill Fellowship 2020

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Executive summary

I visited Aotearoa New Zealand in September 2022 to learn about practical innovation in education and training to support rural and remote communities. I wanted to understand how rural communities can adapt to changes in the labour market and how they can use technology to ensure children can access the same education as their peers in urban areas.

Regional labour market transitions: Aotearoa New Zealand actively manages regional labour market transitions. The Southland Just Transitions Partnership offers a model for early action against economic shocks where decisions are made locally with access to central trusted expertise. The UK could set up a 'job loss early warning system' where local government can request support from central government when faced with the potential loss of a large employer.

Using technology to improve education provision in remote areas: Aotearoa New Zealand uses technology to improve education provision for remote and disadvantaged learners. The use of the Virtual Learning Network Primary by Halfmoon Bay School offers a practical model of innovation to ensure remote learners have access to the same breadth of community as their peers. Local trusts such as Te Aka Toitū work to overcome inequity in access to technology and connectivity. The UK could empower leaders and teachers to test innovation in school sandboxes to solve issues in their context. It could also ensure it undertakes additional analysis where there are small minorities to understand any clustering of disadvantage.

Translating policy and practice between NZ and UK: Aotearoa New Zealand provides a test bed for innovation, partnership has a more central role in policy and sector-led innovation is visible and widespread. There are also a number of strengths and innovations from the UK that could help address challenges in Aotearoa New Zealand, such as the apprenticeship levy and system, rapid skills training with line of sight to work and a more proactive school attendance strategy.

Introduction

In 2019, the UK Government was considering how to respond to changing dynamics in the labour market in response to technological change and the push to net zero, as well as the impact of Brexit on migration. I was working on regional growth and skills policy and interested in exploring this from the rural lens. I felt the impacts of policy on rural communities is often neglected in policymaking, perhaps due to the relative population density particularly in England. I wanted to understand which approaches were increasing access to training in rural and town communities who have access to fewer employment sectors, more limited connectivity and are further away from colleges. I was particularly interested in understanding the extent to which retraining can be led from the ground up by empowering businesses, community groups and local partnerships to support retraining and maintaining employment in towns and rural areas.

The world went into lockdown during the COVID-19 pandemic between when I was awarded my Fellowship and my intended travel date. Aotearoa New Zealand maintained high levels of participation in training, including in those with prior levels of skills, compared to other countries in the OECD. I learnt during my research how local leaders managed acute impacts on local businesses and jobs. They retrained helicopter pilots who flew tourists across the South Island as drivers for advanced agriculture vehicles. In the UK, the Government invested in labour market interventions of unprecedented scale including the Coronavirus Job Retention Scheme, the Plan for Jobs and the Kickstart Scheme. Despite closures of large employers, including many in retail, hospitality and travel, the UK broadly maintained levels of employment and economic growth as GDP fell and then rapidly rebounded. Although I remained interested in the experience of rural communities, it was clear that changes to the UK labour market as a result of automation were having significant impacts on the retail sector and particularly town high streets. The UK pushed forward out of the pandemic with a new priority around regional growth, extending devolution beyond city areas and increasing the funding direct to local government.

As we came out of lockdown, I was ready for a change in job and moved to education policy, leading new work on supporting schools to continue to use the technology they had used for remote learning during school closures. The pandemic had led to a leap forward in how schools used technology with more teachers setting homework online and communicating with parents digitally. As schools in the UK returned to face-to-face learning, I was interested in whether we could learn from countries like Aotearoa New Zealand where a greater proportion of education has been delivered remotely. I wanted to better understand whether remote education offered an opportunity to address our challenges, such as providing subject specialist teachers, without impacting quality of teaching and learning.

After three years without travelling, my responsibilities at work limited the time that I had available to travel. I changed my focus to Aotearoa New Zealand only, rather than including Sweden, which meant I could take advantage of my unique position to look over schools and skills in rural and remote areas. I spent the majority of my time in Southland, taking the opportunity to shadow key meetings locally, rather than travelling as I had originally intended to Northland. This allowed me to develop a more detailed

understanding of remote/rural training in Southland, and more fully experience a part of Aotearoa New Zealand that is not known to UK policymakers. I also used my time to make shorter visits across Aotearoa New Zealand, to Central Hawke's Bay and Christchurch, as well as taking advantage of the time zone to speak with local leaders across Northland.

I went with two key questions. First, how rural communities could adapt to changes in the labour market, such as net zero. Second, how rural communities can use technology to ensure children can access the same education as their peers in more urban areas. In addition, I came back with answers to another set of questions I had not even considered.

I learnt how New Zealand operated as a test bed for innovation, how partnership underpins policymaking and the importance of sector-led innovation. I brought back insight into supporting rural communities to adapt to changes in the labour market, about early action against economic shocks, developing triggers for additional support and enabling local decision-making with access to central expertise. I also brought back lessons for the UK in remote education to provide the flexibility for sector-led innovation and to support schools where teachers are using remote education. There were also a number of areas in the UK/England education and skills system which could help to address challenges in Aotearoa New Zealand including the apprenticeship levy and system, short skills training with line of sight into work via Skills Bootcamps, and more proactive school attendance strategy.

Before applying for a Fellowship, I had read about the Treaty of Waitangi and expected to develop my understanding of how it shapes policy and society in modern Aotearoa New Zealand. I didn't expect that much of my time here would be spent discussing and reflecting on the relationship between the UK and Aotearoa New Zealand in the past, present and future – but I have hugely valued this unexpected element of my Fellowship.

I'm hugely grateful for the development opportunity that my Fellowship provided. I am committed to developing and delivering the best public services in the UK as a policymaker. I read a huge amount about other countries and meet policymakers when they travel to the UK but this was my first opportunity to spend time in another country and understand their context. I took back better judgement and a renewed appreciation of the many strengths of policy and government in the UK as well as practical insights from my Fellowship.

Finally, I received the warmest welcome from policymakers and local leaders as a manuhiri tūārangi or visitor from afar. I'm enormously grateful to all those mentioned in the acknowledgements who gave their time and insights to me. Ngā mihi nui ki a koe and thank you.

Annie Maciver
January 2023

Acknowledgements

About me

I'm currently Head of Schools Technology Policy in the Digital Strategy for Education team in the Department for Education. I lead on development of policy setting out what technology schools need, how to ensure they have the technology they need and how to ensure safe and effective use. I joined the Department for Education following a series of high profile roles in the Cabinet Office and the Cities and Local Growth Unit. Prior to joining government, I taught Maths in St Mary Magdalene Academy in Islington and am an ambassador of the Teach First programme with a Masters in Educational Leadership. I am a trustee for Tutors United and governor for Lawdale Junior School. I'm also a keen surfer, avid reader and dedicated mother of two cats.

Key facts

	Aotearoa New Zealand	UK
Land area	270,534 km^2, comprising two main islands, North and South, and several smaller islands.	244,100 km^2. England totals 130,400 km^2, Scotland 78,800 km^2, Wales 20,800 km^2 and Northern Ireland 14,100 km^2.
Population	5,127,100 (estimated 2022).	67,081,000 (estimate 2021). England 56,550,000. Wales 3,170,000. Scotland 5,466,000. Northern Ireland 1,896,000.
Urban areas population (000s)	As of 2016: Auckland 1,495 Christchurch 390 Wellington 207 Hamilton 194 Tauranga 135 Dunedin 119	As of 2020: Greater London 9,304 Greater Manchester 2,730 West Midlands 2,607 West Yorkshire 1,889 Glasgow 1,673
Language	English (de facto); Māori and New Zealand sign language (official).	English. Welsh also spoken in Wales, and Gaelic in parts of Scotland.
GDP per capita	$47,332 (2022)	$46,565
Purchasing power parity	$50,535	$49,306
Population growth (2017–2021) %	1.9	0.4
Real GDP growth %	3.1	0.6
FDI inflows % of GDP	1.5	1.1
Major exports (2021) % of total	Dairy 25.3 Meat 12.7 Forestry 7.5 Wool 1.7	Machinery and transport 37.1 Chemical and related 16.7 Food, drinks, tobacco 6.6
Leading markets % of total	China 28.0; Australia 11.0 US 9.4; Japan 5.0	US 14.3; Germany 9.2; Netherlands 8.0; Ireland 7.0
Legislature	Unicameral; 120 members; elected three-year term using mixed member proportional representation.	Bicameral: lower house has 650 members directly elected on first past the post; upper house around 775 members by nomination.

	New Zealand Aotearoa	United Kingdom
Constitution	No codified constitution; spread across Acts of Parliament, conventions, common law and authoritative works. Treaty of Waitangi between Crown Government and Māori acting as founding document.	No codified constitution; spread across Acts of Parliament, conventions, common law and authoritative works.
Government as of 2022	Labour party with outright majority and has also reached cooperation agreement with Green party. Last election Oct 2020; next election 2023.	Conservative majority since 2019. Last election 2019; next election before 2025.
Education system	Three levels: early childhood, primary and secondary (age 5–19), and further education (higher and vocational). Schooling compulsory to 16.	Five levels: early years, primary, secondary, further education and higher education. Schooling compulsory to 16; education compulsory to 18.
School structure	Self-managing schools where daily governance of all aspects of schooling is in the hands of local communities.	Devolution to national governments of Scotland, Wales and Northern Ireland. In England, local authority, single academy, and multi-academy trust.
National achievement	84% of 18 year olds achieved NCEA Level 2 or equivalent in 2021.	In England, 82.8% qualified to Level 2 by age 19 in 2021.
International comparison	81% achieved at least Level 2 in **reading** (OECD avg 77%) and 13% top performer (OECD average 9%). 78% achieved at least Level 2 in **maths** (OECD average 76%) and 12% top performer (OECD average 11%). 82% achieved Level 2 or higher in **science** (OECD 78%) and 11% top performer (OECD average 7%). Mean performance declining for reading (2000–18), maths (2006–18) and science (2006–18).	83% achieved at least Level 2 in **reading** (OECD avg 77%) and 11% top performer (OECD average 9%). 81% achieved at least Level 2 in **maths** (OECD average 76%) and 13% top performer (OECD average 11%). 83% achieved Level 2 or higher in **science** (OECD 78%) and 10% top performer (OECD average 7%). Mean performance remained stable for reading and science since 2006. Significant improvement in maths (2015–18).

Itinerary

Whakatāne District
Te Aka Toitū trust

Waipukurau
Jobs in Central Hawke's Bay

Wellington
Ministry of Business, Innovation and Employment
Ministry of Education
Department of Internal Affairs

Christchurch
NetNZ
Ministry of Education

Invercargill Southland Just Transitions Partnership

Oban Halfmoon Bay School Te Kura o Rakiura

How are Aotearoa New Zealand and the UK supporting regional labour market transitions?

I met policymakers from the Ministry of Business, Innovation and Employment (MBIE) in Wellington to learn about their approach to regional growth, regional skills, action labour market support, climate change adaption and just transition. I spent a week in Invercargill as local leaders developed their Budget proposals and met local education and training leaders, developing a case study of the Southland Just Transition Partnership. Finally, I visited Jobs for Hawke's Bay in Central Hawke's Bay, developing a vignette of local employment support in another rural community in Aotearoa New Zealand.

Both the United Kingdom and Aotearoa New Zealand governments have **recently reformed their approaches to local and regional economic development** to strengthen economic, social and national cohesion by correcting imbalances between regions, as well as supporting national strategic priorities.

In Aotearoa New Zealand, the Government has led an evolution of the previous much larger Provincial Development Fund into the **Regional Strategic Partnerships Fund (RSPF)**. It provides $200m to grow regional economies around their comparative strengths and works with them in partnership to develop regionally specific priorities. The objective of the fund is to support regional economies to be more productive, resilient, inclusive, sustainable and Māori enabling (or PRISM). The PRISM Regional Economies Framework sets out the specific elements of a PRISM regional economy and how regions can build PRISM economies through targeting improvements. Investment should create additional value, with local co-funding and capacity to deliver the project. Profiles of emerging regional priorities at a high level suggest broadly strong alignment between national and local priorities on advanced manufacturing, agritech, aquaculture, energy, food/beverage and forestry, with weaker alignment on water security and construction/housing, as well as areas out of scope of the fund such as skills.

In the UK, the Government has replaced previous European structural funding with delegated funding to local governments in England, Regional Economic Partnerships in Scotland, and regional groupings in Wales and across Northern Ireland. It has replaced previous delegated funding to local business/government partnerships or the devolved nations with a competitive Levelling Up Fund to centrally selected areas. It is deepening devolution in England through devolving some long-term strategic investment to highest tier local governments (mayoral combined authorities such as Greater Manchester Combined Authority and West Midlands Combined Authority) and extending devolution beyond city areas to Yorkshire, Cumbria and Cornwall. The overarching objective is to replace the funding structure and system of the European Union with a simpler and more direct funding system more responsive to local needs.

Aotearoa New Zealand has stood up a new fund in under two years, and is already providing centrally and locally agreed strategic investments. Designing a new funding framework across the UK and across different tiers of local government in England has taken five years, although the Government has made

investments via other local funds during this time and the system now established should be more responsive to local needs. Aotearoa New Zealand RSPF has the potential to retain alignment with national priorities, such as developing a hydrogen sector, while providing funding to local investment priorities. Aotearoa New Zealand RSPF arguably leverages significantly more co-funding than the UK, although proportionally the UK is investing a much more significant amount via different funding structures. The UK's approach forces development of local capacity and capability, in particular incentivising local government consolidation to gain greater control of funding. The Aotearoa New Zealand approach is committed to partnership; however, it is difficult to see how local priorities are protected.

Both the UK and Aotearoa New Zealand governments have tried to **increase responsiveness of the skills system to local labour market priorities** to ensure that investment in training results in improved employment and wages.

Aotearoa New Zealand has established **Regional Skills Leadership Groups** (RSLGs) to get a more objective assessment of how the skills system is supporting local skills needs. There are 15 RSLGs supported by a central secretariat which each together produce annual regional workforce plans setting out the region's workforce needs and how providers and other agencies are responding to these needs. Aotearoa New Zealand has centralised skills provision bringing work-based training (delivered by industry training organisations) and training outside the workplace (delivered by institutes of technology and polytechnics) into an integrated model delivered by a national New Zealand Institute of Skills and Technology and the Government will respond to common themes identified by the RSLG.

In England (as skills is devolved across the UK) the Government is gradually moving to a plan-led rather than learner-led skills system. Learning and Skills Councils, responsible for administering local skills capital investment, were abolished in 2010 after being seen to 'catastrophically mismanage' local skills investment.[1] Now the Government is funding designated Chambers of Commerce and other bodies that work with local providers and local government to create Local Skills Improvement Plans (LSIPs), incentivised by the link to capital funding administered centrally.

Both approaches recognise the risk of institutional capture and the tendency of provider-led/learner-led skills systems to struggle to respond to skills needs. In one local economic area of England, analysis by the Centre for Progressive Policy highlighted that in some areas (such as engineering, IT, electrical trade and other construction trades) FE course and apprenticeship completions were far lower than the number of vacancies, despite high median wages; in others (such as sports instruction, beauty and travel) the opposite applied, despite lower median wages. Both approaches recognise the challenge of creating high quality and sustainable skills provision that also aligns with local labour market needs. In England, institutionally led skills provision by colleges supports skills training via apprenticeships where employers are incentivised to hire apprenticeships via a levy and the Government funds the infrastructure to ensure quality. Both approaches also highlight the challenge of creating local partnerships which reflect the idiosyncrasies of local areas. Aotearoa New Zealand's approach benefits from commitment from central

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[1] https://publications.parliament.uk/pa/cm200809/cmselect/cmdius/530/530.pdf

government to work in partnership with the RSLG, unlike in England where there are over double the number of local groups which would require central support.

Aotearoa New Zealand is more actively managing changes to the labour market than the UK. Since the Employment Strategy was published in 2019, the Government has worked in partnership via the quarterly meetings of the Future of Work Tripartite Forum with business and the unions to manage changes to the labour market, focusing on just transitions, income insurance and supporting Māori opportunities.

Aotearoa New Zealand has established a **Just Transitions Unit** to help share and coordinate the work of transitioning Aotearoa New Zealand to a low emissions economy, supporting regions to lead their own transition to ensure impacts and opportunities arising from a transition are more equally distributed. This follows through on the commitment made by New Zealand and other signatories to the Paris Agreement in 2015 to develop national plans on climate change that include just transition measures with a centrality of decent work and quality jobs. The UK provides reactive support in response to economic shocks, supporting locally led taskforces and focusing on negotiating with employers. The closure of SSI Steel's Redcar plant in 2015, leaving 2,000 workers unemployed in a fragile labour market, created ongoing wage scarring where a predominantly older male high skilled workforce had a period of unemployment before moving to a lower wage role or moving to economic inactivity as a result of retirement or ill health.

Aotearoa New Zealand is currently legislating for **income insurance** where workers would receive 60% of their income for up to six months if they lose their job through no fault of their own. As automation, globalisation, decarbonisation and an ageing population make individual and collective redundancies more frequent, income insurance could support workers to find a better job, retrain or recover from a poor health condition. It tackles the lack of mandatory redundancy payment and sickness policies in Aotearoa New Zealand, funded by a levy on workers and employers of around 1.5% each. It is difficult to predict the amount of dead weight in the scheme – where workers not exposed to redundancy (such as care workers) will subsidise more vulnerable sectors which might be higher paid. As longer time job searching is not widely considered to equate with higher quality job matches, the scheme will work alongside active labour market policies including retraining; however, it's not clear whether this will provide sufficient support to achieve the objectives of the scheme. The Government is in the process of reviewing active labour market policies to identify gaps in the system, particularly for people with health conditions and disabilities, and displaced workers. The UK provides limited mandatory redundancy payments as well as sickness benefits – in addition to local employment support advisers having some flexibility to refer those out of work to training providers. In England, adults can also access free flexible courses of up to 16 weeks to develop sector-specific skills and fast track to a job interview via Skills Bootcamps.

Aotearoa New Zealand is starting development of an **Equitable Transitions Strategy**, in particular to support rural communities vulnerable to impacts of carbon pricing and help develop skills in a transition aligned area. The strategy will look at the emerging industries, their spatial distribution and the barriers to growth of these industries, as well as undertaking a comparative analysis to identify transferable skills between industries. This will support creating high skilled jobs in new industries incentivised by the

Government's investment in decarbonising industry, and recognise the demographic characteristics of emission-intensive industries, such as lower skilled workers in primary industries and long job tenure workers in heavy industry. The UK Green Jobs Taskforce brought together industry, government and experts to consider how to meet the UK's jobs target. It assessed the impact of transition on different sectors and regions, developing and testing a new approach to model the impact of the transition to net zero in one region, focusing on the North East of England. It has introduced Local Skills Improvement Plans (LSIPs), developed by employer representative bodies working with local employers, providers and local leaders to make technical education and training more responsive to the changing needs of employers and the local economy.

Prior to arriving, I understood the UK and Aotearoa New Zealand to have reasonably **similar degrees of labour market flexibility** although with increased use of migration in New Zealand to tackle national and local skills shortages. Speaking to policymakers, it was interesting to hear about attempts to more actively manage the labour market in Aotearoa New Zealand in both the short term, through partnership and investment, as well as in the long term through creating new statutory income insurance. What struck me when travelling round was that Aotearoa New Zealand was struggling to manage historically low unemployment and high vacancy rates – buses were cancelled, shops shut early and employers spoke about struggling to fill roles. This was clearly partially the result of labour market disruption from the pandemic and the end of COVID restrictions which happened during my visit; however, it felt more widespread in Aotearoa New Zealand than in the UK where shortages seemed more confined to specific sectors such as air travel and healthcare.

I was also struck by more **informal expectations** around training. Both the UK and Aotearoa New Zealand have skills gaps and a priority to increase human capital and skills in specific sectors. The most significant recent reforms in the UK are those to the apprenticeship system, funded by an employer levy introduced in 2017 which incentivises attraction and development of employees through a standardised apprenticeship system at a devolved national level. The apprenticeship system in Aotearoa New Zealand seemed to be at an earlier stage of development. Prior to the pandemic, New Zealand provided an employer subsidy to take on at-risk young people as apprentices as well as funding via Group Training Schemes which employ and provide training to the host businesses, such as those in construction, who struggle to do so otherwise. I wondered whether income insurance was the right investment over an apprenticeship levy to develop local talent rather than continue to fill skills gaps via migration.

Case study – Southland Just Transition Partnership

Right at the tip of Aotearoa New Zealand in Murihiku/Southland is Tiwai Point, Aotearoa New Zealand's only aluminium smelter. Opened in 1971, following the construction of Manapouri Power Station, it produces aluminium from ore sourced from refineries in Queensland, Australia for export, mainly to Japan. The owner, Rio Tinto, has threatened closure in part to renegotiate the price it receives for electricity, directly impacting around 600 workers with more in the supply chain and Invercargill area. It is the largest store of hazardous waste in all Australasia with an estimate of over $1bn for the remediation of the site.

Murihiku/Southland was first settled by the Waitaha iwi (people or tribe), followed by Kāti Māmoe and Kāi Tahu forming a network of food gathering sites in permanent and semi-permanent settlements in coastal and inland regions. After Tūhawaiki, the paramount chief of Kāi Tahu, signed the Treaty of Waitangi, Walter Mantell purchased Murihiku from local Māori iwi for European settlement, reneging later on a commitment to provide hospitals and schools alongside each Kāi Tahu village and expanding settlements into Fiordland, which Kāi Tahu maintained was outside the purchase. Subsequent Scottish settlement can be seen in the English place names such as Invercargill, the largest town holding 50,000 people or half of Southland's population. After the West Coast, Southland is the most sparsely populated area of Aotearoa New Zealand with a correspondingly strong local regional identity.

I was born and have spent much of my life in London. I currently live in Tower Hamlets, which has 5,000 times the population density of Southland. It was clear even to me that Invercargill is a thriving place. Arriving by plane, I could see the extent of productive commercial and industrial land. Coffee shops were busy and the central business district was mid redevelopment. Highways between Invercargill and Bluff, the centre of the predominantly Māori owned aquaculture industry, were busy with lorries and vans. Following a population scare in the early 2000s, the population has grown as the region's economy has diversified with the growth of dairy and other industries in recent years. Southland has benefited from higher migration to agriculture as well as internal migration from cost of living pressures in urban centres such as Auckland. Regional investments, such as the recent $6m investment in Aotearoa New Zealand's first oat milk plant, should continue this growth.

Figure 1: Tiwai Point (L); Aquaculture in Bluff (R)

The Southland Just Transition Partnership brings together iwi, local government, education providers, business representatives, workers (represented by unions), community organisations, central government and the primary sector. It has developed seven workstreams – clean energy, land use, aquaculture, business transitions, worker transitions, long-term planning and community capability building. They have undertaken work to develop investible proposals linked to these priorities around a new hydrogen sector, expanding the aquaculture sector, supporting Māori development and land use, and have worked with the Government to identify potential public and private funds.

The partnership is evidence of the value of early action against potential economic shocks in a thinner labour market, although it will be difficult to separate the impact of the partnership over other external factors contributing to local growth and resilience. I felt like the partnership was in a strong position, established ahead of a potential economic shock when it is possible to promote the development of new industries and improve local confidence and inward investment. It has been undeniably supported by an accompanying growth in Southland's regional economy as well as global supply chains creating a higher price for aluminium and Rio Tinto prevaricating on its earlier position to close the plant.

The partnership approach offered a model for decision-making where every outcome will be, at least in the short term, worse than the current position. There are no easy decisions if Tiwai Point closes for the Southland economy; however, building a local partnership enabled open discussion on the trade-offs. For example, although the aquaculture sector had stronger foundations and supported Māori economic development, it would not offer workers the same reward and conditions that they currently receive in Tiwai. Similarly, developing a hydrogen sector had the potential to create highly paid jobs with a cleaner industry. It would also create additional business such as fertiliser production. However, it felt more speculative with the benefits potentially to be concentrated on a smaller group. An elephant in the room was that the power laid outside it – whether it be the decisions of Rio Tinto or another company investing in hydrogen generation. However, the process used the convening power of government to bring a community together that is hugely stronger through partnership. The challenge of the Government setting the rules of the game is that representatives lacked time for engagement with communities, and implementation was reliant on local resources.

The partnership was dependent on strong local actors. The partnership brought together strong local institutions that provided adult training via the Southern Institute of Technology, additional careers support and employer engagement via the Great South regional development agency and worker support from the national union E Tū. Recognising the training needs that accompany economic and social changes, the Southern Institute of Technology was looking at loss-leading courses that help build the aquaculture industry and working closely with the iwi on the design. Southern Institute of Technology is very clear on its role in transitioning the current smelter workforce to new industries and developing skills for growing industries such as hydrogen and data centres. It has a number of long-standing advisory boards, and is recognised for its community engagement, supporting a number of regional development strategies as well as using community support and awareness to offer a zero fees scheme for high enrolment courses. However, there is a risk that wider reform to centralise tertiary education impacts its autonomy and leadership to deliver. The partnership also plays a valuable role using the convening power

of the Government to bring NZAS to the same table as the union and release workers to participate in engagement.

This dependency on strong local actors also makes the partnership vulnerable to external impacts on the future of those institutions. The elephant in the room was the interaction with the centralisation of vocational education in Aotearoa New Zealand which could impact the leadership and governance of Southern Institute of Technology, and reduce its autonomy. The challenge for the partnership was scope creep – drawing a line between developing new industries to protect the economic outcomes of those directly impacted by closure as workers in the smelter or the supply chain, and generally growing the Southland economy, for example in the development of agriculture. The partnership had to find a balance within budget processes to develop high quality ideas with support of the community, with open consultation already made harder during a pandemic where face-to-face engagement was off the table. The partnership had to keep a mid- to long-term view, despite the priorities of workers often on industrial issues such as wage rates and staffing, recognising that negotiations between NZAS and the Government have been ongoing.

Vignette – Central Hawke's Bay

Farms and vineyards line the gentle valley of the Tukituki river. I arrived delayed from roads closed from flooding and slips from the sides of mountains resulting from heavy rain and thunderstorms. There were no complaints about the weather as this area has been in drought for the past three years as climate change makes Aotearoa New Zealand weather more extreme. Despite the impact of drought on agriculture and of the pandemic on other sectors, the area has seen a growth in employment, in part thanks to the locally led work of the Jobs in Central Hawke's Bay team including Jono and Ange who I visited in Waipukurau.

Figure 2: Flooding en route

Central Hawke's Bay is a community of over 13,000 people. Some 3,000 people are members of the Jobs in Central Hawke's Bay Facebook page. Each week, one of the team drives the Mobile Employment Hub to Waipukurau, Waipawa and the smaller outlying towns. Inside the hub, employers can advertise for free and jobseekers can receive free support – and the team provides additional direct support in colleges to school leavers. The team facilitates the local skills, training and employment network, bringing together 15–20 local providers every six weeks to provide information on opportunities and skills needs, enhancing collaboration between agencies to get the best results for their community. The team also hosts an apprenticeship support workshop every week with computers, internet, pizza and access to training advisers.

Employment support is a key active labour market policy to support with jobs search, help with job matching and encourage employers to take on groups, such as young people, that they might be less likely to hire. Additional support for priority groups such as young people often has intermittent funding, with support often delivered by multiple organisations and targeting changing according to need and political priorities. Jobs in Central Hawke's Bay was funded by the Mayor's Taskforce for Jobs, a delegated COVID response fund to 23 rural councils. Despite the ambition of policies such as income insurance, it relies on the work of youth workers like Jono and Ange who keep their community close to the job market. I also heard about the work of the Vodafone Foundation to grow capacity in the youth sector in the South Island, through strengthening networks and looking at higher level youth qualifications.

Figure 3: The Mobile Employment Hub

My conversation with Jono and Ange zoomed in and out, from changes to key sectors in the region to the stories of individual young people they had supported into work. At a central level, policymakers are often interested in how data and automation can increase the effectiveness of employment support. The reality is that solving the problem of moving a person into a job often has a large number of local variables – we spoke about the challenges of the seasonal migrant workforce in horticulture, how certain employers were investing in technology to make more permanent roles, the impact of pressure on the housing market, the construction skills gap, demand for apprenticeship opportunities, pastoral support for young people not in education and employment or training with additional support needs. There were some gaps in employer engagement with the Jobs in Central Hawke's Bay team, such as the large local meat processing employer with high wages but lower working conditions. The youth work sector often struggles to balance simultaneously supporting local people into local jobs while keeping an eye on sector growth and future skills trends which might not realise. I heard about the challenges, particularly for other hubs without local support to step in to continue to fund in the absence of continued support from central government, of year-to-year funding while central debates continue about priorities of employment support, such as those around income insurance.

How are Aotearoa New Zealand and England using technological change to improve education provision for remote and disadvantaged learners?

Aotearoa New Zealand has a longer history of providing **remote education** as it is a significantly more rural country than the United Kingdom. England used remote education for primary and secondary education for the first time in recent history en masse during the pandemic, with mixed effect. Aotearoa New Zealand currently provides a number of technology services to schools including school connectivity, e-safety and some at-home connectivity. England moved from direct provision between 2000 and 2011 to school autonomy, and increased investment in school technology during the pandemic to support remote learning. Aotearoa New Zealand has around 2,500 schools or kura (including integrated and public) and slightly lower attainment scores in the Programme for International Student Assessment (PISA), the international student ranking. England has around 25,000 public schools and slightly higher PISA scores, with higher rates of school attendance, a national curriculum and a stronger focus on guided instruction in teacher training.

Remote learning

Te Kura (the correspondence school) has been part of Aotearoa New Zealand's education system for over 100 years since its founding in 1922. It was established to provide distance education to learners in isolated and rural communities, remaining an access point for over 400 geographically isolated learners today out of a total roll of over 24,000 learners. More recently, it has played a greater role in the education of at-risk and disengaged learners, many of whom are Māori. The school was positively evaluated in November 2021 by the Education Review Office, the Aotearoa New Zealand regulatory body for schools. Around 40% of learners are enrolled in Te Kura as well as a local school in order to access tuition in subjects not available to them at their local school. Student numbers increased 40% from 2018 to 2021, with the proportion of at-risk learners increasing over time and around half of students spending less than two years on roll. The rate of attainment of the National Certificate of Educational Achievement for the significantly more vulnerable Te Kura learner cohort is 46% for full-time learners and 83% for young adults in literacy, and 39% for full-time learners and 80% for young adults for maths, against a national average of 92%. Rates of transition to tertiary education and training have trended downwards in the five years prior to 2022 at Te Kura. Learners of school age receive personalised online delivery and learning group meetings, and Te Kura works with learners to support them with access to devices and the internet.

In England, distance learning is not an established part of the primary or secondary education system as there are far fewer isolated communities. The vast majority of learners are enrolled in a local school where attendance is higher than in Aotearoa New Zealand. Some learners may be in alternative provision due to

permanent exclusion following disciplinary action or attending special schools where they receive additional support for special needs or disabilities. Other learners may be withdrawn by their parents for home-schooling, which has grown since the pandemic in both Aotearoa New Zealand and the UK, or be unable to attend school for health reasons where the local authority provides hospital schooling. Each local authority in England is responsible for a virtual school for looked-after children in their area, ensuring their admission to a local school, that they have a personalised plan for their education, and working with multiple agencies to coordinate and ensure learners receive the support they need to catch up.

In response to the New Zealand Government announcing its intention to close small rural schools, principals themselves developed **virtual learning communities**, the first being CANATech in 1994. The virtual learning communities have been supported by the Ministry of Education at different points, including funding development of a 'Learning Communities Online' handbook and funding full-time principal positions in participating clusters. The virtual learning communities showed they were flexible to respond to the priorities of the day – for example, the FarNet cluster in the more predominantly Māori Far North District of Aotearoa New Zealand provides Te Reo or Māori language teachers. The virtual learning communities are largely self-funded by schools who either provide a teacher for a certain number of enrolments or buy a certain number of enrolments for students. NetNZ provides virtual learning for tertiary education in Southland with smaller 'class' sizes than Te Kura, enabling students to access specialised teaching in a wider curriculum than would otherwise be on offer in their local institution.

The **Virtual Learning Network Primary (VLNP)** works to ensure all learners have access to opportunities, enabling teachers across the network to provide online classes to learners. Each year, participating schools are surveyed on their interests. This is compared with the capacity of current teachers, and new teachers are inducted where gaps arise. The VLNP timetable is developed based on the number of classes, the availability of teachers, and to avoid clashes with days set aside for teachers' continuous professional development and training. Students and teachers have access to a Zoom link via the VLNP's Google calendar. Classes cover two 15-week terms, avoiding the busy start and end of the academic year. Students can change their courses at the midpoint and new schools can join. Schools receive early feedback each term on any pressing issues, such as technical difficulties, and receive more detailed feedback on student engagement. Students and staff have an induction at the start of the year, partly to manage challenges with changeover of staff. Students are expected to have learning support, particularly for their first few lessons, to ensure they can use email, use the learning platform (Google Classroom/Seesaw) and understand behaviour expectations. Class sizes vary depending on whether students are joining from different schools independently, in which case numbers are limited to 12–15, or whether they are joining as a class, in which case they can go up to 25 learners supported by their in-class teacher. Teachers receive professional support to build confidence and capability including regular professional learning meetings and a teacher handbook. Schools are encouraged to provide a teacher to the network in order to build remote teaching capability across schools. The VLNP is a registered professional setting by the Aotearoa New Zealand Teaching Council so teachers can remain certified. Teachers are often end of career and mid family so therefore willing to trade the allowances they would have in a full-time teaching role for the flexibility of the VLNP, and some have health conditions that would otherwise force them to leave the profession.

Case study – Halfmoon Bay School

Off the tip of the South Island lies Rakiura Stewart Island. Almost the entire island is owned by the Aotearoa New Zealand Government and set aside as a national park covered in native trees. It is home to a large bird population, particularly flightless birds including penguins, kiwi and saddlebacks, which thrive due to fewer introduced predators. It is also home to around 400 people mostly living in the settlement of Oban and working in fishing and tourism. Halfmoon Bay School and principal Kath Johnson are a critical part of the thriving island community.

Halfmoon Bay School is driven to ensure that its students (around 30 when I visited) have the same or better access to opportunities as their peers elsewhere, and that students are prepared academically and socially to transition to boarding school on the mainland. The school started using the Virtual Learning Network Primary to ensure learners had access to languages that were brought into the primary curriculum, but difficult to teach with a teaching staff of two! The school took up additional classes as they became available including maths extension to give access to maths specialist enrichment to higher achieving learners, digital technology to provide specialist tuition in coding and Te Reo or Māori language to meet national curriculum expectations. An additional benefit is the non-cognitive growth of a broad curriculum where students feel confident and are inspired across a number of areas. This is something the school values highly and which is also supported by the opportunity for students to participate in regional sport and their local band.

Practically, lessons are provided synchronously via live lessons. Children have a quiet space for their VLNP lessons. Teachers use mobile phone alarms to coordinate and create time to check in on what was covered. Students use Google Classroom or SeeSaw for their VLNP lessons, as they do for their school work. A challenge is that learners will miss classwork for their extension, which is particularly challenging if a lesson should fall over critical learning in reading, writing and maths.

The VLNP is one of many activities the school undertakes to support students with their transition to education outside of their isolated community. This supports the transition from primary to secondary, as

Figure 4: Oban, Rakiura Stewart Island

students largely attend boarding schools in the mainland towns of Invercargill or Dunedin. Kath Johnson established with a number of other principals the Rural and Remote Schools Network which convenes a camp for their learners in Wellington each year with online learning in between, covering enrichment topics and careers learning. Students are surveyed on how they have found the transition to secondary school and what helped them. Other activities to support transition include acting as ambassadors for the island for visitors and developing profiles that are sent to their future teachers in their boarding school.

As a teacher, I felt that society often put a burden of change on teachers – prescribing how they juggle students' social/emotional and cognitive development with the priorities of the day. It feels like an impossible juggling act for rural schools in Aotearoa New Zealand to ensure students can access modern languages across the curriculum from the 2010s, support the revival of Te Reo and the Māori language, ensure students reach reading, writing and maths standards in mixed age groupings and are prepared for secondary transition. The use of technology and remote learning to meet the wider demands on the school sector without proportionate investment and within constraints demonstrates how **sector-led innovation can enable schools to respond to increased expectations** without proportionate investment and within constraints.

I was struck by the agility of the sector to respond through the VLNs as well as other initiatives, enabled through relationships between leaders. There are proportionately more schools for the pupil population in Aotearoa New Zealand, resulting in a lower ratio of leaders to students. A number of initiatives, including the virtual learning communities and the Remote and Rural Schools Network, had originated in the all principals conference in Canterbury. Although the lower of degrees of separation between leaders in Aotearoa New Zealand, in part linked to a smaller population, enabled this strong cohort, it felt like there is an important insight about how critical it is to **ensure education leaders have space and capacity** to form relationships and develop sector-led initiatives.

The experience of the pandemic has increased interest in the opportunities for remote education in England as well as scepticism about how effectively different students can learn remotely. I felt like there was a more **practical attitude to remote learning** in Aotearoa New Zealand. Educators I met with described how remote education created an opportunity to provide equity of opportunity for learners. In Halfmoon Bay, that was preparing younger learners for life beyond their community – so they could make friends outside the island, be exposed to completely new ideas and experiences, and learn with others who were top in that area too. In the Virtual Learning Network Primary, that was about working with their users, teachers and students across Aotearoa New Zealand, and providing a reliable delivery mechanism for part of the curriculum that was difficult to deliver locally. For NetNZ, it was providing a broad vocational curriculum, delivered to reasonably independent young adults. I didn't meet anyone who thought that remote education was a better means of students making progress – but instead it was a creative and innovative solution to meet the socio-emotional and intellectual aims education and create intellectually curious and confident people who can make the most of the opportunities in their lives.

School technology

Aotearoa New Zealand schools are self-managing and the daily governance of all aspects of schooling is in the hands of local communities. The Government provides the network and Microsoft/Google licensing for schools, and is considering what other central services could benefit schools across infrastructure, data and safety.

Infrastructure: Currently, Aotearoa New Zealand operates a bring your own device policy in education, with an estimated 120,000 learners not having access to devices in the pandemic. Schools were provided around 50,000 devices, many of which have been left with families. The Government is looking at working with manufacturers to provide better advice to parents on appropriate devices for learning, and looking at a centralised virtual application to allow students with lower quality devices to access higher spec programmes. The Government is looking at removing server licensing to transition schools from servers, recognising some local needs for servers, and is interested in providers offering a transition service.

Data: Schools are required to use an authorised school management service provider which can connect with the National Student Index, a database system maintained by the Ministry of Education and the education sector's core register for learner identity data. The Government is looking at how to automate the transfer of more detailed student data, whilst ensuring data protection through a higher standard of accreditation.

Safety: In addition, the Government is looking at providing additional cyber support with centralised email filtering and a centralised DNS. NetSafe provides education advice as well as acting as the reporting agency for the Harmful Digital Communications Act.

Vignette – Manaiakalani

In 2006, a group of Auckland principals joined together to ensure their learners had the same access to additional literacy and numeracy support, as well as digital technology, as their wealthier peers. Today, that group has become the Manaiakalani Network – a network of 120 rural/remote and lower socio-economic schools using technology to support learning. I spoke via video conference with Dorothy Burt, part of the founding team and first facilitator for the programme.

The programme's approach reduces barriers to learning, by ensuring students can learn anywhere and anytime, and increases engagement and teaching quality by making all teaching and learning visible and creative. Schools are supported around a critical pedagogy of learn, create and share that is flexible to the pedagogical diversity resulting from Aotearoa New Zealand's self-managing schools, whilst increasing engagement and quality through getting learners to create and share outputs such as blogs. Schools develop an essential foundation and the programme trains administrators, helps get the right infrastructure with school clusters working directly with one IT company and evaluates progress made through partnership with the University of Auckland. Under the Manaiakalani Education Trust, the programme has developed a microfinancing scheme to purchase devices at scale, lease to families with insurance as well as develop free connectivity for learning at home. Learners develop digital citizenship through a cyber smart programme that helps reduce the time schools spend reactively managing the harms of technology use. The programme reports that schools make greater progress against the national norm for writing, particularly for boys, and the Trust partners with the Woolf Fisher Research Centre to evaluate its programmes. Manaiakalani is funded through corporate and philanthropic donations.

As a former teacher working on technology policy in schools, I believe it is critical to keep equity of access at the heart of policy. Technology is expensive and tackling digital inclusion at a society level requires coordinated action to provide and maintain access to a device and connection, support to develop skills to use technology safely and effectively, and a level of trust in the state. Expanding use of technology in schools without ensuring all learners have access risks widening educational attainment gaps. I was struck by Dorothy's determination to provide learners access to technology – and the strength and sustainability of the pedagogical approaches she described. For example, we discussed rewindable learning where teachers post voice notes to Google Sites or use short screen captures to provide scaffolding to learners as they consolidate their learning independently. She championed how schools and their communities can empower teachers – giving them the 21st-century tools to support them to develop learners. I took back a renewed energy to work with and enable local partners in England on digital equity in education.

Case study – Minginui

Four hours' drive from Auckland through pine forests and increasingly windy roads takes you to Minginui in the Eastern Bay of Plenty. Horses roam across the road and forest covered hills rise above the valley and across the horizon, hazed in a light mist. This is the eastern flank of Te Urewera, the largest rainforest of Aotearoa New Zealand's North Island, which was recognised in 2014 in a world first law as its own legal entity and the Tūhoe people as its legal guardians, ending government ownership. The Tūhoe protect the precious site through kaitiakitanga (roughly translated as 'guardianship') – involving understanding the close connection between people and nature, and protecting the mauri or life force of forests, rivers and lakes.

We arrived at Te Kura Toitū o Te Whaiti-nui-ā Toi, a Māori medium school established for the community. The school provides completely immersive Māori education to younger children and predominantly Māori education to young adult students. It also provides free or low cost reliable wi-fi to the community via the schools high-speed broadband connection as part of the Te Aka Toitū Trust who hosted our visit. One of the seven values of the school is toi te rangatira tuari hangarau or to know when, where, with whom and what to share – encouraging students to use technology to advance thinking, choose the right technology for the right purpose, learn from mistakes and experiment.

Across the wider region there is very low connectivity to the internet – with 38.4% of homes in the neighbouring town of Murupara connected at the time of the 2013 census. Across the wider area, students overwhelmingly come from lower socio-economic backgrounds – 20 out of 33 schools in the Eastern Bay of Plenty are in the lowest two deciles, a measure of socio-economic status used by the Government to target funding and support schools. Across schools supported by Te Aka Toitū Trust, established by principals from the Eastern Bay of Plenty in 2016, 93% of students are Māori.

Minginui was established in 1946 by the New Zealand Forest Service to support the forestry industry in the Bay of Plenty. Around 5,000 people lived and worked in the area. Since the mills closed in 1986, the community shrank and those remaining struggled to find employment. During our visit, we heard about a much brighter future for the community developing self-sustaining employment through community-owned businesses including a local native tree nursery and local bed and breakfast. We saw families who have returned partly driven by higher rents elsewhere, but also because the community now has an internet connection.

Figure 5: Brighter futures in Minginui

Figure 6: School connection reaching across the remote community

The connection was established by the local school and paid for by the community. It provides a connection for learners at home as well as a lifeline to the community for a range of services – from calling emergency services, meeting conditions for claiming welfare, connecting with the doctor and completing at-home detention. There is no mechanism across these services for supporting digital inclusion in rural and remote areas, other than the installation of a fibre network and support with connection for those on welfare.

We travelled deeper into the valley into Tūhoe land, travelling up a dirt track by all-terrain vehicle to where the wi-fi mast is in the house of a local leader. Across the valley, I could see remote single houses where Māori living as Māori could also live as citizens of the world, with a connection to the internet.

I know as a policymaker that people are sticky. Economic models expect people to move to work and earn. Policy is designed to enable mobility and growth of cities with higher levels of growth from clustering. Visiting Aotearoa New Zealand and learning about the pepehā (the traditional introductions which can include your local river and mountain, in addition to your name and family name) made visible how Māori identity was based in place, and purpose in the stewardship of place. In statistics, only 2% of Aotearoa New Zealand's population does not have an internet connection. But, as local leaders explained, in places like Minginui that translates to 60% of the population who already experience a number of other structural inequalities. This gave me a new perspective looking at the UK. Nearly all children in the UK have access to broadband at home in 2021 with a very small minority (1% of 2–17 year olds) only using a mobile connection to go online (Ofcom, 2022) and the majority of parents reporting their children had access to an appropriate device for home learning all the time, with one in twenty children (6%) not being able to do school work as a result or having to choose to pursue alternative educational activities (4%). As policymakers, we tend to neglect these very small minorities – but who is that 1%? Are they a cluster and what other structural barriers are they facing? As policymakers, how can we balance looking across complex systems whilst not losing sight of the experience of outliers?

Although beyond the scope of my project, my visit also made me reflect on education and integration. Comprehensive schooling tends to be considered an important part of an integrated society. As a teacher and a governor in London, I observed the tendency of parents to select schools (unconsciously or consciously) for their children according to ethnic composition, resulting in neighbouring schools with significantly different ethnic make-ups. Although in some ways easier to teach, where students from similar ethnic backgrounds might be more likely to share additional needs, such as speaking the same first language at home, I feared that this risks entrenching structural inequalities and fails to build tolerant integrated communities. Māori medium education in Aotearoa New Zealand has undergone a revival since the Waitangi Tribunal's ruling in 1975 about the failure to protect the Māori language, which was provided as a 'guarantee' in the Treaty of Waitangi or Te Tiriti. English had been the preferred language in schools since 1867 and Māori banned from playgrounds since 1903. The Government now accepts that outcomes for Māori in Māori medium education are significantly better than in English medium but most learners are in English provision. An evaluation during the pandemic by the Education Review Office identified that Māori medium learners maintained higher levels of participation attendance as their schools were more integrated with the community and were more effective at adapting to ensure resources reached families. Learning about the journey of Māori medium education challenged me to ensure I understand how learner experience and outcomes vary by ethnicity within comprehensive schools.

New perspectives from Aotearoa New Zealand

I noticed common themes in my research, meetings and travel from the tip of South Island to the forest and mountain of the Eastern Bay. These themes helped me better understand the forces behind positive change in Aotearoa New Zealand. They also helped me understand some of the barriers to change in England and across the United Kingdom, and enabled me to reflect on how to translate ideas to the UK.

The **first theme I identified was the potential of Aotearoa New Zealand to operate a test bed for innovation** due to its geographic isolation and relatively small scale. It has apparently played this role in the global technology sector since the mid 1980s when electronic payments were first introduced here. I saw areas where Aotearoa New Zealand was acting as a test bed for policy – the introduction of income insurance, based on partnership between government, business and unions, as well as the mitigation of potential economic shocks linked to the move to net zero via the Southland Just Transition Partnership.

However, it felt like there was a missed opportunity to contribute to global understanding of what works, rather than just test implementation at scale. The statistics agency Stats NZ maintains the Integrated Data Infrastructure (IDI), a large research database holding de-identified microdata about people and households. Aotearoa New Zealand has the potential to evaluate policy via IDI and through staggered introduction of policy. During my time in Aotearoa New Zealand, policymakers and practitioners often cited research but rarely quantitative research that we expect in the UK. Others mentioned the reluctance of New Zealanders to qualify causal impact – attributing it to their preference for softer measures and also the recognition of Te Ao Māori. I learnt that as Māori have a long history of being 'targets' of research, there was understanding of a kaupapa Māori research methodology in quantitative research, for example using a mixed methods or he awa whiria (braided river) methodology to identify Te Ao Māori or Māori worldview factors and then explore quantitatively.

I was more aware from my experience in Aotearoa New Zealand of the opportunities created by the UK's challenges related to complexity and central capacity. It's hard to see the central government in the UK having the capacity to mitigate numerous potential economic shocks – and this is why city governments, such as West Midlands and Greater Manchester Combined Authorities, have a critical role. Although the relative population density of the UK should make it better placed to weather local economic shocks, population mobility is continuing to fall in the UK and people often continue to remain in their community even when it loses jobs. Finally, it was fascinating observing a country where everyone knows each other. Government ministers largely went to one of a small number of Aotearoa New Zealand universities and can fit around a table. Most of the public servants I met knew everyone else I was meeting. Even in Invercargill, with the threat of losing the anchor employer and a large proportion of the high skilled jobs in the local economy, it was certain that one set of local leaders would always remain the iwi.

The **second theme I identified is how partnership underpins Aotearoa New Zealand policymaking**. Te Tiriti, the country's founding document, requires policymakers to recognise Te Ao Māori (the Māori worldview) and matauranga Māori (Māori knowledge) in the development of legislation, regulation and policy. In practice this requires co-design and collaboration with iwi (the largest social unit in Māori culture) and should render unilateral government action impossible. I learnt how this was an area that is still developing – with debate on the extent and ramifications of co-design and decision-makers finding the balance. However, many policies and programmes I learnt about had been formed via multi-day hui – a formal Māori gathering at the marae or meeting ground, which can include events such as weddings and funerals as well as discussions to determine policy. In my first week in Wellington, I felt like I hadn't had a single meeting where policymakers had described partnership as the organising principle or delivery mechanism to tackle a problem.

Partnership is also critical to UK policymaking. Championing change, convening partners, connecting networks and co-producing policy are regular and essential practices of policymakers such as myself. The UK Government does not have the same entirely shared sovereignty as the Aotearoa New Zealand Government so is often ultimately able to act unilaterally. Consequently policy development builds in consultation but on a narrower scope, recognising the importance to citizens and politicians that problems are solved with pace. The complexity and scale of the UK forces a greater level of abstraction and arguably more strategic policymaking – focused on identifying priorities from evidence, making trade-offs and creating effective delivery mechanisms. The one insight I took from the Aotearoa New Zealand approach was how to effectively use partnership as a more agile delivery approach. One of my favourite Māori words was kaupapa – identifying a shared agenda to deliver on. This underpinned projects where there were multiple benefits to different agencies.

The projects and programmes In Aotearoa New Zealand I visited often originated from conversations between principals and collaboration between schools. The **third theme I identified is how enabling sector-led innovation** felt common to aspirations in both the UK and in Aotearoa New Zealand. Local leaders were clear that what they had started in their communities was **'part of a solution but not the answer'** and helped root changes in their context, explaining why they might not work elsewhere or at scale. Leaders described how their innovations came when confronted or when challenged – and highlighted that the school level innovation had been stymied by the national policy of self-managing schools which encouraged autonomy.

Linked to this was also learning to accept messiness, even in a smaller and less complex system like Aotearoa New Zealand. I learnt to see society using the analogy of the marae, the sacred and communal meeting ground used for everything from sleeping to celebrations, where everyone in the iwi knows what they are responsible for doing so it is productive, though chaotic. It was a reminder to me as a policymaker to work in partnership to clarify roles in the education system. I also saw school leaders take on a range of functions beyond education, particularly in terms of digital inclusion. Although schools should not be relied on to connect digitally excluded householders with government services, it reminded me of the power of the community service of many education leaders.

Finally, I heard from local leaders how bureaucracy in Aotearoa New Zealand made their work harder, for example around the location of the school's network server. It emphasised that the value of government in partnership is helping to navigate bureaucracy and remove barriers, rather than develop ideas and make decisions for local people.

Taking practical innovations in education and training in rural and remote communities back to the UK

Actively supporting regional labour market transitions through partnership

The labour market is changing at an increasing rate. Both Aotearoa New Zealand and the UK have experienced community decline due to previous labour market changes. Communities that feel the impacts of labour market change due to automation or due to the drive to net zero emissions are often already more disadvantaged and less likely to experience benefits of decarbonisation. Government can play a role in providing investment, connecting with expertise and capacity not available locally, and convening local leaders. In over two years the Southland Just Transition Partnership had agreed areas for investment. Most crucially the partnership itself made the difficult decisions around where to prioritise future economic growth, recognising the trade-offs in the risk of developing a new advanced industry with the costs to workers of focusing on a lower value sector. Meanwhile, the local community has a positive dialogue about their future to engage in, reducing outward migration and promoting internal investment and growth.

I took back three lessons for the UK. First, a **recognition of the value of early action against potential economic shocks** in thinner labour market areas. Second, in a devolved country system, the need for government involvement and investment to recognise when an area is more vulnerable to economic shocks and for **a defined trigger for additional support**. Finally, the importance of **decisions about local investment priorities being made locally but with access to central trusted expertise about growth sectors**.

Using technological change to improve education provision for remote and disadvantaged learners

Sector-led innovation

Schools sit at the heart of rural and remote communities. The expectations on these schools to extend curriculum provision and provide additional support had increased out of pace with the allocation of resources to overcome their constraints. One of the most significant impacts on student outcomes is the extent to which their teachers collectively believe they can positively affect student outcomes. In Aotearoa New Zealand, I saw this belief manifest in the Virtual Learning Networks, where teachers believed in and delivered a service to extend the curriculum and support the development of children in every place. I saw how teachers could use the network to tailor extension activity for each learner's

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strengths and needs, and provide access to a community of learners and a subject specialist they otherwise wouldn't have access to in their local community.

I took back two lessons for England and across the UK. First, **designing flexibility to enable sector-led innovation that promotes collective teacher efficacy** where teachers collectively believe they can positively affect student outcomes. Second, **how to support schools where teachers are using remote education to provide a richer learning experience in rural communities**, and help ensure this doesn't impact on other conditions for learning such as attendance.

Outliers

The UN recognises a connection to the internet as a basic human right. Rural and poorer households in both Aotearoa New Zealand and the UK lack a connection. The challenge to connect rural communities is more acute in Aotearoa New Zealand given the geography and lower population density. Although only 2% of the population remains unconnected, for communities that lack a connection that will translate to the majority of the community. This aggravates existing marginalisation of this community, particularly as government services digitise. Working with digitally excluded communities is often complex as they are more likely to have a low trust of the state and lower capacity to work through bureaucratic processes. In Aotearoa New Zealand, I saw how local trusts driven by the purpose and dedication of local leaders overcame this for their communities, driven by the repeated failure of the Government to support those most in need. In the UK, 1% of children only have access to the internet via mobile data rather than a fixed broadband connection, with a minority of children only going online using a mobile phone (5%) or a tablet (11%) with 1 in 20 children not being able to complete their school work as a result or pursue alternate education activities. The Government provided devices to schools and local government during the pandemic, and schools can continue to use funding for disadvantaged learners to provide them with technology.

What I took back to the UK is a need to understand what the distribution of the 1% of children who do not have access to broadband at home is, and find a way to work with local community organisations to address this.

Next steps

I developed three 'cover stories' to inspire change around the insights from my Fellowship. These cover stories imagine scenarios where the UK implemented practical innovations I learnt about in my Fellowship within our context.

UK establishes first job loss early warning system
Local government in the UK can request additional support from central government when facing the potential loss of a large employer. The Government has committed bring together large multinationals with local communities and workers, provide expert advisors and opportunity for investment, and support communities to set their own new direction for the future.

Trust leaders and headteachers test innovation in school sandboxes
Innovation is critical to providing the best education to our children, to support their social emotional and cognitive development, for a happy, productive life in an ever changing world. School leaders are best placed to develop solutions to problems to increase the productivity of our education system. The Government will work with trust leaders to identify barriers, navigate bureaucracy and help reform the system.

New protections for outliers
Policymakers will now undertake additional analysis to ensure that outliers are not excluded from service design and delivery. Until now, communities have been neglected in the allocation of funding and the design of programmes where they have been a cluster of a small proportion of a population experiencing a poor outcome. The UK Government will pilot this approach, looking at schoolchildren without internet to understand if there are common characteristics or clustering in this group.

In my day job working on technology in education policy, I am sharing these three prototypes across government. This isn't the end of the journey, and I look forward to the joy and glory of the climb to come – please get in touch if you want to join the journey!