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DISCUSSION PAPER

HARD LESSONS: HOW OUR SCHOOLS CAN PROFIT FROM THE PANDEMIC

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EDUCATION IN THE TIME OF COVID: LESSONS FOR THE PRIMARY SECTOR

'ALAPASITA POMELILE

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The paper in summary...

The New Zealand Government's response to the COVID-19 pandemic included the shutdown of schools for weeks. At short notice, teachers and students had to adapt to online teaching and learning when they were not adequately prepared to do so.

This paper examines the experience of the primary education sector over the last few years – how did it cope with the rapid shift in teaching style and delivery, what positives and benefits did a period of fully online learning bring to the sector, and most, importantly, what lessons can be learned?

We decided to focus our examination on the primary school sector because it has largely been overlooked. Most national attention has been focused on the upper secondary school levels (Years 11-13) because that is when national examinations and University Entrance are undertaken. However, primary schooling is tremendously vital as it sets the foundation for secondary and ongoing education. If we do not get primary education right, the long-term shortfalls are costly and more challenging to mitigate at higher year levels.

The paper shows that the experience of schools, teachers and students varied enormously during the COVID-19 pandemic. This reflects partly the different starting points that each school and teacher occupied when online teaching began—some were more familiar with the technology and had greater access to the necessary resources and technology. Our education sector's varying experience also reflected the pre-existing digital divide: there was a lack of universal access to technology and a lack of the skills and capability needed to use digital technologies to support online learning.

Furthermore, this paper explores how schools and teachers placed a much greater emphasis on prioritising student well-being. We also discuss the great importance of regular communication between teachers, students and their families. However, in the end, the best online education strategies had limited success in overcoming poor learning environments at home. Overcrowding, limited access to devices and a stressful home life were all hard for schools to compensate for remotely.

We finish the paper by making ten recommendations to improve how online learning is carried out in the future of primary schooling in New Zealand. These recommendations are both for the Government and for individual schools.

These recommendations include:

- That the Government should maintain funding streams for addressing learning loss in primary schools over the next five years. This funding should be for additional tutoring programmes in schools to assist with remedial/recovery efforts from the ongoing impacts of COVID-19.
- That schools should develop processes for distance learning and remote working, including education delivery modes, the structure of teaching and learning, and expectations for staff and students.
- That the Government should continue providing extended subsidies for filtered internet access and digital devices for learners needing digital access in their homes.
- That the MoE develop monitoring systems to track the digital infrastructures of schools. This would include keeping a database of the number of devices in a school, its distribution across year levels, and the software and digital technologies used in the school curriculum.

Our education system's response to the pandemic can be summarised as unprepared yet well-intentioned and often commendable, and there is much room for improvement. The experience of COVID-19 and lockdowns taught a number of hard lessons for our education system. It is imperative that we take heed of these lessons so that our education system is more able to deal with further unforeseen disruptions that may occur in our uncertain future.

1. INTRODUCTION

The various governmental responses to the COVID-19 pandemic caused the most significant disruption to education systems in living memory, affecting nearly 1.6 billion learners in more than 190 countries. Many countries closed educational institutions to contain the virus, temporarily halting face-to-face learning. Schools and universities were forced to adopt a remote learning educational model swiftly. Schools remained closed in some countries as viral transmission increased, while other countries kept them open even in a challenging pandemic.

As early as May 2020, the World Bank noted the onset of unprecedented shocks to global schooling systems including: learning loss, increased school dropouts, especially among the most disadvantaged, increased negative trends in student mental health and wellbeing, and increased learning inequalities.¹ Further to learning loss, interruption of face-to-face instruction coupled with the varied efficacy of alternative forms of education throughout the pandemic increased student disengagement with learning. Other notable impacts included the reduced ability of parents and families to support their children in the continuation of learning.² Much of our nation's post-pandemic recovery efforts focused on health and the economy, with insufficient attention given to the lifeblood of our country: education. Our education system has not come out of the crisis unscathed or immune to global trends around the consequences of the pandemic. We are seeing a rise in issues such as truancy, worsening literacy and numeracy levels, and widening learning gaps.³

After a crisis like the COVID-19 pandemic, we must examine what took place and discern what lessons we can learn—the losses and gains—so we might work towards future-proofing the education system. As schools continue to pick up the pieces from the pandemic years of disrupted learning, taking stock of the nation's COVID-19 education response is crucial to their recovery.

This paper explores how our education system—including government, schools, teachers, families, and learners—responded to pandemic disruptions using online learning and how we can make the most of the lessons learned from this experience. Much of the national attention to the impact of COVID-19 on schooling has centred on upper secondary school levels (Years

11-13) due to those years' national examinations. The primary schooling sector has largely been overlooked. Primary schooling sets the foundation for secondary and ongoing education, so it would be remiss not to consider the pandemic's impacts on the sector.

This paper, therefore, focuses on the primary schooling sector and the role of online learning in its response to COVID-19. We look at the respective roles of Government, schools, teachers and families. We then consider the losses, gains and lessons acquired from our online learning response. Building on some of the lessons learnt, we conclude with policy recommendations to aid our education sector's recovery from pandemic disruptions and explore how online learning can best be used for the future of primary education in Aotearoa New Zealand.

2. A RESPONSE TO COVID-19: ONLINE LEARNING AND THE PRIMARY SCHOOLING SECTOR

Throughout lockdowns and pandemic disruptions, many primary schools turned to online learning to ensure that education continued for learners. To understand how online learning played out, including some of its unforeseen challenges, we need to understand the broader context. This section briefly outlines the pre-COVID-19 landscape and timeline of online learning, followed by how online learning played out in our primary schooling sector throughout the pandemic.

2.1 The landscape of online learning pre-pandemic

Before the internet, there was distance learning. The Correspondence School, established in 1922, provided roots for what would later lead to integrating online distance education or online learning into schools.⁴ In 1993, distance education reached a turning point, becoming a key feature in the main political parties' election manifestos. The National Party vowed to expand the use of technology to improve distance learning.⁵ The Labour Party included the development of an integrated communications network in its education policy, noting the critical role of telecommunications technology in enhancing education, training and distance learning.⁶ In the same year, the Canterbury Area Schools' Association Technology (CASAtch) project was established, acting as the predecessor to e-learning clusters now known as Virtual Learning Networks.⁷

Throughout 1992-1993, distance education became a strategic consideration for politicians, educational policymakers, and the communications industry as they tried to bridge the gap between the continuing development of information and communication technologies (ICT) and their use in education.

Since the 1990s, ICT use and development has been a policy priority for the Ministry of Education (MoE). The MoE has developed various strategic documents that have laid the groundwork for online learning in the school sector. This foundation began with *Enabling the 21st Century Learner: An e-Learning Action Plan for Schools 2006-2010* which offered a vision for extending technology to deliver education through hybrid and

online learning models. This was followed by the 2008 *Digital Strategy 2.0*, aimed at developing the country's digital infrastructure to advance Aotearoa New Zealand as a leader in the digital world.⁸ Lastly, the 2008-2012 *ICT Strategic Framework for Education* focused on integrating technology into the education sector.⁹

2.2 Online learning: During the pandemic

Before COVID-19, school children used various digital technologies in school environments and their lives. As the pandemic hit the country's shores, the temporary suspension of in-person learning necessitated learning from home using online and digital platforms. On March 25 2020, the country went into a national lockdown, requiring the closure of all educational institutions and a swift shift to remote teaching and online platforms for delivering education.¹⁰ The education sector's response to lockdowns and disruptions can be seen below in Table 1. The rapidly moving timeframe captures the fast-evolving context of COVID-19 and the measures adopted by the education sector to ensure learning continued at home, even amidst disruptions. School holidays were brought forward to accommodate schools and teachers in their preparation for remote teaching and learning. From April 15 to May 18, remote teaching and learning from home replaced on-site learning.

Our educational sector wasn't ready for this sudden and significant shift to online learning. One of the earliest MoE lockdown surveys on schools highlighted that only 50 per cent of our schools felt they could deliver learning entirely online and that their students could access online learning.¹¹ The need for more devices quickly became clear, as did the limitations of internet connectivity for many. The shift to online learning and learning from home highlighted disparities in the education system, such as a digital divide in schools and students' access to the internet and appropriate learning devices.

Alongside bridging the digital divide, schools and educators developed alternative means of education delivery, such as educational packages and materials, using television shows and social media channels. Online learning through remote teaching was the primary mode of education delivery throughout the lockdowns and subsequent disruptions. Most schools used digital platforms such as Google Classroom, Zoom and YouTube.¹²

Table 1: Timeline of lockdowns and corresponding responses in the education sector

Alert Level	Date	COVID-19 responses in the education sector
2	March 2020	The MoE announces the decision to bring the April school holidays forward by two weeks.
3	23 March 2020	Schools are warned to get ready to close. The MoE contacts schools to assess their readiness for remote learning.
4	25 March 2020	Schools are closed as Level 4 comes into force.
4	8 April 2020	A government press release notes that with only 50% schools able to provide online learning, the MoE will roll out a four-pronged support programme to increase capacity across the sector.
4	15 April 2020	Most schools phase into online learning after Easter, beginning on 15 April 2020. Level 4 lockdown is extended until after Anzac Day (27 April), then the country moves to Level 3.
2	May 2020	From 18 May 2020, schools begin a phased approach to on-site education/ returning to schools. Schools are to maintain necessary precautions: - students are to remain in bubbles; - social distancing and hygiene routines are instituted.
1	June 2020	Most schools are open with students with flu-like symptoms encouraged to stay home. At this stage, borders are still closed and 100 days have passed without new cases in the community.
1	July 2020	Term 2 ends 3 rd July. Term 3 starts 20 th of July.
3	12 August 2020	Evidence of community transmission in Auckland, requiring all Auckland schools to shift back to online learning. The rest of the country remains at Alert Level 2.
1	September 2020	Most of the country returns to Alert Level 1. However Auckland remains at Level 2.
1	October 2020	All of Aotearoa New Zealand moves back to Alert Level 1.

Source: Education Review Office, Greater Christchurch Schools Network, Ministry of Education, New Zealand Government.

3. THE ROLE OF GOVERNMENT, SCHOOLS & FAMILIES

Primary schools were part of a larger ecosystem of various groups delivering education, particularly online learning, throughout the pandemic. This section will focus on the role of three groups involved with education delivery and online learning throughout the COVID-19 disruptions: the Government, schools and teachers, and learners and their families. Each sub-section sketches out the role and response of different stakeholder groups in delivering education through online learning throughout the pandemic.

3.1 Government and the digital rollout

The Government mandated the first nationwide lockdown between March 23, 2020, and May 12, 2020 (a total of 51 days).¹³ All educational facilities were forced to close throughout this period, and students and teachers moved to learning and teaching from home. In response to the rapid and unprecedented shift to online/remote learning, the Government shifted school holidays to give teachers and schools three weeks to prepare for this new environment.

In response to national lockdowns, the Government and the MoE supported digital access in schools and kura kaupapa. The Government provided learning devices and internet connectivity for learners needing digital access.¹⁴ Between March and September 2020, the MoE provided 40,000 households with internet connectivity and 36,000 devices to learners across Years 7-Year 13.¹⁵ Due to a limited supply of devices, the MoE formed priority groups based on a learner's year level and school decile. Year 11-13 in decile 1-3 schools were deemed highest priority learners, followed by the same year levels in decile 4-10 schools, and lastly, other year groups, including primary school-aged learners.¹⁶

3.2 The digital rollout and primary school learners

The Government's digital rollout aimed to provide digital access to students whilst bridging the digital divide across learners and schools. The digital rollout prioritised secondary school learners, leaving a shortfall of 72,000 devices for younger learners in Years 1-8 and 5,000 learner households without internet connectivity.

The MoE's evaluation of its digital rollout noted that the prioritising of older learners was due to NCEA examinations.¹⁷ It failed, however, to offer explanations for how the digital needs of primary school learners who missed out on devices or connectivity were met.

To better understand why there is a digital divide and the efforts behind the government's digital rollout, we need to consider the digital landscape of our compulsory education system. Over the past three decades, governments have provided resourcing and policy support for digital technologies across the education sector. The delivery of internet connectivity and school IT and network infrastructures has increased the use of online platforms to support classroom learning, the development of virtual learning networks and the widespread use of digital technologies in the administration of schools.¹⁸ According to a MoE review of digital technologies, our devolved education system requires each early childhood education service, school, and tertiary provider to take responsibility for its teaching and learning resources, assets, and IT infrastructure.¹⁹

Compared to other countries, New Zealand educators are relatively high users of digital technologies in the classroom, according to data from the Organisation for Economic Co-operation and Development (OECD).²⁰ The increasing use of educational technologies such as Google Classroom, Microsoft Office and Teams, as well as Learning Management Systems (LMS) in schools, would support this finding. Despite the widespread use of digital tools in schools, classrooms and online environments, there is still a wide variance in the quality of learners' digital learning experiences.²¹

Similarly, there are variations in how schools and educational institutions adopted and implemented digital technologies into the classroom and online learning. An MoE evaluation of the Government's digital rollout of internet connectivity and devices found that in schools where digital technologies were well-integrated into classrooms and school curricula, the transition to online learning was seamless and minimal help was required from the Government.²² However, the sudden shift to online learning was disruptive and challenging for schools with minimal educational technology. This was due to resourcing challenges, the cost of digital access being unaffordable for some families and school leadership views on technology in the classroom.²³

While well-intentioned, the government's digital rollout did not meet all learners' needs. Due to limited resources, trade-offs such as prioritising older learners were unavoidable. Unfortunately, younger learners and the primary schooling sector were an afterthought in the Government's digital rollout and education response to pandemic disruptions.

3.3 Primary schools and the shift to online learning

By the end of March 2020, schools worldwide were operating at varying degrees. School closures in countries like Australia and the United States of America were at a subnational or local level.²⁴ In other countries like Iceland, primary school classes under 20 remained open.²⁵ In Sweden, primary and lower secondary schools stayed open as upper secondary schools shifted to distance learning.²⁶ As we have seen, in this country at short notice, primary and secondary schools were to prepare for a sudden shift from face-to-face learning to learning either synchronously or asynchronously from home.

Throughout the pandemic, remote learning by using online and digital platforms had become a lifeline for many education systems. To encourage learning continuity throughout pandemic disruptions, schools and educators worldwide used various tools. Across OECD countries, for example, many education systems moved quickly to deploy multi-modal strategies such as online, TV, and radio education, along with print materials and instant messaging.²⁷ However, online platforms and tools were the most popular amongst OECD and partner countries.²⁸ The rapid shift from in-person and analogue learning to online and remote learning was seamless for some countries and challenging for others.²⁹

For schools and teachers, the sudden shift to online learning and remote teaching required a quick adaptation to online learning platforms and remote teaching. There was considerable variation in how our schools and teachers undertook remote teaching during lockdown periods. According to Education Review Office (ERO) reports, changes to school curriculum included an increased focus on wellbeing, culture and diversity, digital literacy, life skills, practical and creative work, the pandemic as a topic, and critical competencies.³⁰ For primary school teachers, pedagogical changes ranged

from play-based learning, flexible timetabling, and flexible and personalised teaching to integrating home and school learning.³¹ In 2020, Nina Hood and colleagues at the Education Hub reported that primary school teachers utilised the lockdown period to encourage students to engage in activities and play often associated with informal learning including reading, cooking, gardening, and exercising.³²

3.3.1 Schools and Teachers: adaptations to teaching practices and Pedagogy

Across OECD countries, digital technologies and online learning were critical in delivering and continuing education. Online and digital platforms enabled educators and students to access different specialised materials in multiple formats. In countries such as South Korea and Finland, which have a heavy investment in expanding digital access across system-wide infrastructure and support for online learning and digital technologies, their education systems could adapt quickly to a technological response to pandemic disruptions and school closures. However, for many OECD nations, including Aotearoa New Zealand, COVID-19 struck when schooling systems were not prepared or fully equipped to deliver remote and online learning and teaching.

Before COVID-19, our schools were developing their digital infrastructure and curriculum, but the pandemic accelerated this progress and pushed teachers and learners into online learning and remote teaching. The autonomy schools have in using technology and delivering online learning contributes to the variation of online learning experiences and teaching practices captured in research on education and the impacts of COVID-19. New Zealand evidence demonstrates a spectrum of lockdown experiences among educators varying from frustration and anxiety around teaching remotely to gaining new insights into ways to teach using technology. The shift to remote teaching provided opportunities to identify what makes good remote learning and teaching.

Research by Pivot Professional Learning and Education Perfect on the COVID-19 experiences of Australian and New Zealand educators identified that education technology and digital tools used by survey respondents were wide-ranging, representing over 140 platforms.³³ The report's findings noted that most educators used multiple technologies (two to five), with Australian schools using a more comprehensive range of primary technologies

than New Zealand schools. Primary or commonly used technologies amongst educators included Education Perfect, Google Classroom and Microsoft Teams. To simplify the broad nature of the educational technology landscape, the digital tools identified by the Pivot Professional Learning report were grouped according to four functionalities in Table 2 below.

Evidence provided by the Education Hub found that New Zealand schools' variance in their use of online learning was due to factors such as the school's digital infrastructure, digital resources to internet connectivity and device access.³⁴ Other findings highlighted that primary and intermediate teachers used multiple technologies and a more comprehensive range of online platforms than their secondary schooling counterparts.³⁵ The same cohort of teachers would also supplement online learning with offline activities encouraging students to engage in activities at home with families or their local community, as noted earlier.³⁶

According to the Growing Up in New Zealand (GUINZ) study, 67 per cent of surveyed school children (10-11 years old) used devices daily for schoolwork during the pandemic.³⁷ The most commonly used apps were YouTube, Google Hangouts, TikTok and Facebook Messenger.³⁸ Many of these social media apps have a

minimum age limit of 13 years, which raises concerns about the need for cyber safety, even when learning online.

Some schools employed offline approaches like paper-based learning packs in the absence of online learning, primarily because of issues with internet connectivity and accessible learning devices.³⁹ This approach was often complemented with phone calls between schools and their students and families to maintain engagement and connection.⁴⁰ In an MoE report on the digital rollout, learning paper packs were provided for 280,000 students from schools, Kura and eligible early learning services.⁴¹ These learning packs included a variety of educational resources such as books, mathematics, literacy, and science learning material, stationery, and whanau and parent guidance sheets on supporting learning from home.⁴² Other complementary digital learning aids to support remote learning and teaching throughout the 2020 lockdowns included a Home Learning/Papa Kāinga TV programme on TVNZ and Mauri Reo Mauri Ora on Māori Television for Year 1-10 learners.⁴³

Table 2: Types of educational technologies used by New Zealand Primary and secondary school educators

Category	Function	Technologies included
Student/Course Management Systems	Provide administrative functions, student management systems, content management systems	Schoolbox Compass SEQTA
Synchronous Collaboration Tools (SCT)	Digital tools that support live online classroom settings	Skype Zoom WebEx
Virtual Learning Environments (without Integrated Learning Content) VLE	Online platforms for content delivery that can be used to manage student learning and communication	Blackboard Learn Canvas Moodle Microsoft Teams
Virtual Learning Environment with Integrated Learning Content (VLEC)	Online platforms that act as one-stop shop for learning content (includes activities, videos and assessments)	Education Perfect Seesaw Connect Education

Source: Hood, Nina. "Learning from lockdown: What the experiences of teachers, students and parents can tell us about what happened and where to next for New Zealand's school system." *The Education Hub* (2020).

3.3.2 Shift in priorities: student well-being over academic learning

The immediacy with which our schools had to close placed great responsibility on schools, principals, and school leadership teams. An ERO survey on the lockdown experiences of school principals and leadership teams reported that school leaders felt a great responsibility for their students and staff's well-being in light of uncertainty and COVID-related anxiety.⁴⁴ Seventy per cent of these school leaders explicitly prioritised student mental health and well-being over academic learning.⁴⁵ The reduction in face-to-face contact, coupled with the uncertainty around the nature of COVID-19 and evolving lockdown levels, required schools to dedicate more time and resources to check in on the well-being of their students and families.

For some school leaders, adjusting expectations around levels of student engagement and workloads in light of lockdown conditions shifted the school's focus to student wellbeing, with academic learning taking a backseat. In another ERO report on the lockdown experiences of teachers and students, 36 per cent of surveyed primary school teachers felt students were less positively engaged in learning from home.⁴⁶ Some schools reported adjusting the curriculum to include fun activities such as physical activity rather than overwhelming students and families with a list of daily tasks to complete.

For many schools, focusing on well-being concerns required a flexible approach to timetables and schedules. This approach enabled teachers to alleviate the overwhelming nature of learning from home by diversifying tasks and activities, breaking up learning into formal learning components and well-being elements. Research by the Education Hub reported that primary and intermediate teachers provided students with wide-ranging learning activities, enabling flexibility around the tasks and activities with which they could engage.⁴⁷ Teachers would, for example, post work weekly or daily with follow-up video calls to provide support, feedback, and clarity around instructions.

In a 2020 survey of New Zealand teachers, Flack and colleagues identified three significant concerns about the impacts of COVID-19 disruptions: social isolation, decreased student well-being, and learning loss.⁴⁸ For most teachers, student well-being was of equal concern and focus as academic learning. This may be attributed

to teachers' beliefs around the causal link between well-being, social interaction, and academic achievement.

The *Growing up in New Zealand (GUINZ) Covid-19 Well-being Survey* of primary-aged children echoed similar well-being concerns about the time away from peers and the school environment.⁴⁹ In the same study, many children reported that their experience of lockdown was socially and emotionally challenging, and they were not receiving the required support.⁵⁰ Notably, 45 per cent of children did not feel they often had someone to share their feelings and lockdown experiences with in their bubble, and 38 per cent had increased anxiety about how much money their family had during lockdown.⁵¹

Learning from home was made even more difficult by factors such as crowded homes and a need for access to the internet and devices. For primary-aged learners, sharing devices was more common, making learning more difficult. Schoolchildren have suffered from the psychosocial effects of COVID-19. This is evident in the general concern among educators about student wellbeing and the subsequent prioritising well-being throughout pandemic disruptions.

3.3.3 Increased and enhanced engagement with learners and families

The success of online learning throughout lockdowns and pandemic disruptions depended on the strength of existing relationships between schools/teachers and learners and families. These relationships were often supported by a robust and coherent school culture embedded across all aspects of the school, its processes and systems.⁵² Lockdown data from ERO highlighted that regular communication between schools and learners strengthened teachers' relationships with families, giving families deeper insight into their child's learning journey. From the same dataset, around a quarter of school leaders specifically reported greater family involvement and home and school learning integration as successful over the lockdown period. Many leaders highlighted that regular communication helped to strengthen teacher relationships with whānau and gave whānau greater insight into their children's learning.

In an ERO survey on the impacts of COVID-19 on schools, 90 per cent of surveyed schools reported increased or improved communication and engagement with learners and families to support student well-being.⁵³ Schools

cited using various communications tools from phone calls, emails, video calling and other online digital platforms to check in on students and families regularly during lockdowns. School leaders also reported that regular communication helped to strengthen teacher relationships with families and gave parents and families greater insight into their child's learning. For some school leaders, lockdowns provided an opportunity to build community spirit and connections and increase communication with whanau, which may not always be afforded in the everyday rhythms of a school year.

Research on the COVID-19 experiences of principals by the Springboard Trust highlighted the role of engagement in maintaining relationships with teachers and students.⁵⁴ Principals overwhelmingly perceived their established level of engagement during and throughout lockdowns as one of their greatest successes.⁵⁵ The strong two-way relationships between school leaders with staff and family engagement were significant.⁵⁶ Leeson and colleagues noted that principals sustained student engagement with themed lessons, new learning structures and a new-found depth of understanding of students, particularly their home life.⁵⁷ Ensuring communication with staff and learners was clear with targeted messaging rather than a one-size-fits-all approach proved successful. Principals also reported that this communication improved the shared home-school relationship around a child's learning.⁵⁸

3.4 Families and Learners: The Home Environment

The shift from a structured schooling environment to learning from home meant the home environment was pivotal in a student's learning. For younger learners, parents and older family members were relied on for engagement with formal learning and establishing routines. These roles included ensuring they could attend online classes. In households with limited access to devices, younger learners were more likely to share devices and connectivity with older learners in their homes. Parents, older siblings, and other family members became teachers to younger family members.

In a notable report on informal learning during lockdowns by the New Zealand Centre for Education Research (NZCER), families and the nature of a home environment were influential in informal learning throughout

pandemic disruptions.⁵⁹ Surveying the informal learning and everyday experiences of primary-aged students throughout lockdowns, learners identified social, cultural and historical dimensions of their learning at home. For learners from ethnic minority groups, learning occurred from and with family, using the mediums of language and culture. Children reported learning more about their families through the extended and intimate time spent together in family activities and engaging with family members when help was needed for different forms of learning, from cooking and arts and crafts to construction. Students of ethnic minority cultures highlighted that their home environment throughout lockdowns was conducive to language learning, cultural practices, generational storytelling and learning about and through their heritage language and culture. It is important to note that the NZCER research reported positive lockdown experiences of learning that may not represent all children's experiences.⁶⁰ Nonetheless, it provides insights into children's informal and everyday learning experiences during a pandemic.

3.4.1 Increased engagement between parents and families and schools

The pandemic provided opportunities for parents and families to become more familiar with their children's learning and what was happening in the classroom. To support learning from home, relationships between the home and school, between teachers and students, school and parents, and school leaders and teachers became crucial. For some learners, the increased involvement of families in their learning, coupled with regular school communication with teachers, gave their families a greater awareness of their child's learning.

Parents and families appreciated how schools supported their children's well-being, as evidenced by the ERO COVID-19 reports. Parents stated that schools managed the pressures of online learning and learning from home by being flexible towards learning tasks. This was accomplished by giving students resources and opportunities to do formal learning whilst providing choices in tasks rather than making things compulsory. This allowed learners to learn differently by engaging in new activities such as gardening and cooking.

Schools generally increased communication with families with regular check-ins and instructions on supporting their child's learning. Eighty per cent of surveyed students

stated that their teachers had made contact throughout lockdowns to check in on them and their families. This gave families and their children a sense of normality, structure and help on their learning-from-home journey. For some families, increased communication from teachers was informative and relieved the pressures of needing to assume the position of a teacher with their child's learning. Other parents acknowledged that teachers understood the different home situations and levels of capacity among parents and families to help with their children's learning.

In addition to the increased communication and information supporting a child's learning, schools played a broader role in supporting families. Low decile schools, in particular, reported collaborating with the local marae or not-for-profit organisations to distribute care packages (food parcels and hygiene materials) to families. For some schools (both secondary and primary), the extended care was often in response to the needs of families with COVID-related job losses and financial pressures.

4. REFLECTIONS: WHAT DID AND DIDN'T WORK?

The acceleration of online learning throughout the pandemic provided opportunities to try new ways of doing things. This section offers insights into what was gained and lost throughout the online learning experience for our primary schooling sector.

4.1 Gains

4.1.1 Increased flexibility in approaches to education delivery

COVID-19 required more flexible learning models with higher levels of learner agency and parent and family support. There was significant variation in the remote teaching and online learning experiences of learners. Some teachers weren't confident technology users and struggled with the blended mode of online and paper-based delivery of lessons. In addition, not all schools had operative digital infrastructures and effective pedagogical practices to support online learning. What was apparent was the need for flexible and blended modes of learning and remote teaching in our schooling system.

The pandemic highlighted the critical role of online learning and digital technologies in delivering education amidst emergencies, lockdowns and events requiring a learner to be physically away from the school site. We learned that certain conditions, such as having a study space, a learning device and the internet, must be met for remote and online learning to be successful. Hood pointed out that having a flexible approach to remote teaching—what she called “professional pluralism”—enhanced students' and families' learning experiences and educational outcomes.

The pandemic and subsequent disruptions also helped educators to reconsider the business-as-usual approach towards teaching. For some educators, remote teaching throughout the pandemic allowed them to refine their teaching practices and encouraged a collaborative approach to designing and implementing teaching materials and resources.⁶¹ From an instructional lens, Harvard Professor Richard Elmore argued that extending teachers' skills and knowledge is necessary to improve student learning.⁶²

Educators now have the opportunity to incorporate lessons learned from lockdown that were effective for delivering online learning into in-person, real-time classroom learning. Approaches may include shorter instruction as well as grouping chunks into smaller tasks that can be scaffolded.⁶³ In returning to the classroom, teachers can take stock of current teaching practices and integrate lessons: assess where change is needed, and consider that teaching pedagogies are always evolving.

4.1.2 Professional learning and growth for teachers

There were varied online learning experiences for teachers, with some educators finding it challenging due to everything from student-level factors to the home context to resourcing issues. For other teachers, however, the pandemic provided opportunities and time not usually afforded in a standard schooling year for developing skills and knowledge. According to the Education Hub, some educators enjoyed the opportunity for professional growth in developing new skills and knowledge on remote teaching and online learning.⁶⁴ Upskilling teachers for the shift from classroom to remote teaching was crucial throughout the lockdown period. Some schools provided professional learning for teachers, focusing on upskilling teachers in teaching online and using different platforms, tools and apps.

Some education organisations also offered free learning courses for teachers, possibly making the most of the increased flexibility in teachers' schedules and discretionary time for professional development. The increase in learning opportunities and uptake signalled a desire for ongoing learning and professional development in using technology in and outside the classroom. This presents an opportunity for schools to continue prioritising ongoing professional development in online learning as technology becomes further embedded in our schools.

4.2 Losses

4.2.1 Digital divide

Around the world, the pandemic exposed and exacerbated existing inequalities across all sectors of society, particularly education. The notion of a digital divide features throughout COVID-19 reports, indicating a lack of universal access to technology and a lack of the

skills and capability needed to use digital technologies to support effective remote teaching and online learning. The sudden shift to learning at home widened the divide, affecting both learners and teachers. Much of what is known about the digital divide in Aotearoa New Zealand relates to the secondary school sector. Similar conclusions, however, can be drawn from this data and applied to the primary schooling sector.

Online learning and remote teaching requirements put teachers under tremendous pressure to cope with increased and unfamiliar workloads while managing their families and homes. For teachers and schools that were well-supported and resourced to deliver online learning, the remote teaching experience was generally positive, with little impact from the digital divide. In other cases, their capacity to teach and ensure learning continuity could have been improved for teachers with learners who had limited connectivity or access to devices or for whom devices were not fit-for-purpose.⁶⁵

The shortfall of 72,000 devices from the Government's digital rollout mainly affected primary school learners. Very little research has been done to capture and understand the impacts of this shortfall on younger learners, particularly in the primary schooling sector.

Across the literature, inequitable levels of digital access among learners and families were more notable among low-decile schools and disadvantaged students. In addition to the MoE, many schools distributed devices to their students and families. Where device or connectivity access was an issue, some teachers tried to bridge the communication gap with phone calls and by creating physical learning packs that did not require digital technology. Students in low decile schools were also more likely to have had to share a device and to have watched Home Learning TV across all year groups. In decile 1-3 schools, 19 per cent of students had to share a device, and 22 per cent watched Home Learning TV. As schools pick up the pieces from pandemic disruptions, student access to devices and reliable internet needs to be at the forefront when planning digital learning or preparing for future emergencies.

4.2.2 Social aspect of learning and school life

Social connections play an essential aspect of child and youth well-being.⁶⁶ Online platforms could only go so far in creating conditions for social interactions similar

to those in schools, from the classroom to the school playground. Hood noted that educators highlighted the difficulties in replicating the social environments of classroom learning via the online learning model.⁶⁷ This included the limitations of online discussions, which have a different depth than in-person classroom discussions and cooperative learning. In the same report, students reported missing engagement with peers and the social aspects of school.⁶⁸

Often missing from online interactions were non-verbal cues, such as facial expressions, gestures and body language, inherent to in-person interactions. This was intensified by students' reluctance to turn on video cameras during online classes. Students also reported missing their friends and engaging in the social aspects of school life.⁶⁹ Similarly, in a GUIINZ study, social isolation from peers made lockdowns difficult for some school children.⁷⁰

In post-lockdown surveys from ERO, students reported higher levels of learning enjoyment in schools post-lockdown compared to during the lockdown.⁷¹ Fifty per cent of surveyed learners said they enjoyed learning at school after the lockdown, compared to 38 per cent when learning from home during the lockdown. The proportion of students not enjoying their learning (disagree or strongly disagree) fell by 30 per cent during and after the lockdown, when students were back learning in the classroom.

This preference for learning onsite could be due to opportunities to engage one-to-one. Some students in the focus groups reported being more comfortable and preferred discussing their questions with peers outside of the online classroom. This was often because they felt unable to be discreet in front of the class, and they did not want to ask questions in front of the class.

4.2.3 Learning loss

The impact of school closures and lockdowns by way of learning loss, particularly for regions such as Auckland, which experienced a longer lockdown period than the rest of the country, is still unfolding. Donnelly and Patrinos define learning loss as a situation in which student knowledge and skills decline.⁷² It occurs when educational progress does not happen at the same rate historically compared to previous years.⁷³

ERO surveys of schools and students found three main themes related to student learning progress and achievement. Firstly, the size of the impacts on student learning is still unfolding and largely unknown. Secondly, school leaders were deeply concerned about student achievement and progress, particularly for learners whose learning from home was limited. Lastly, some teachers noted that practical subjects such as art, science and technology were areas of concern due to an inability to achieve the breadth and depth of practical learning via online learning.

The ERO also found that 37 per cent of schools interviewed in Term 3, 2020, had purposely deferred some planned formal assessment. Surveyed teachers and schools responded that this was mainly due to a shift in priority and focus on student wellbeing and managing pressure on students. With a lack of formal assessments and assessment information at a system level, it is difficult to estimate the nature and extent of any impact on learning or the size of learning loss.

According to ERO data, 59 per cent of schools reported having concerns about student progress and achievement due to lockdowns. Eighty per cent of low-decile school educators said that progress and achievement were of concern for at least some of their students. Additionally, two-thirds of principals in low-decile schools suggested that at least a quarter of their learners had fallen behind in their learning. Whilst the nature and extent of learning loss is still being gathered, current evidence indicates learning loss has occurred.

Cabinet papers released in September 2022 noted that the impacts of COVID-19 on the education sector are significant and ongoing. Learning loss was highlighted as substantial because of learning and assessment disruptions. In addition, the demands of the remedial work coupled with a teacher workforce in short supply require urgent attention. The papers highlighted that learning loss due to COVID-19 poses risks to student progress, achievement and outcomes. MoE officials proposed remedial plans that focused on funding additional teaching and tutoring programmes for Year 7-Year 13 learners only. Again, more specific help for primary school learners is needed and has been lacking.

4.2.4 Declining school attendance

The aftermath of COVID-19 saw school attendance rates sink to alarming lows. The attendance figures for Term 1, 2022, showed that 46 per cent of learners attended school regularly (attending 90% of a school term).⁷⁴ Across all regions, school deciles and ethnicities, attendance levels were down. The MoE attributes these concerning statistics to the long-term impacts of lockdown fatigue on parents.

The latest ERO report on school attendance highlighted that our attendance troubles existed pre-pandemic. From 2016-2019, the regular attendance rate dropped from 70 per cent to 58 per cent, where regular attendance is measured as attending 90 per cent of a school term. However, ongoing lockdowns and subsequent pandemic disruptions have worsened attendance levels.⁷⁵ These disruptions included increased staff and student absences due to COVID-19-related illnesses. With a struggling teacher workforce, staff absences for some schools were difficult to address because of a lack of relief teachers. The mixed public health messaging from the government and schools around returning to school and when to stay away if households had tested positive for COVID-19 added to the fatigue parents and families felt post-COVID-19.

Other barriers to attending school post-lockdowns included concerns among families living with immunocompromised members and sending their children to schools at risk of COVID-19 transmission. This was likely heightened for families lacking the skills to evaluate information and make decisions about sending children to schools even when the transmission risks were low. According to MoE, learners from low-decile schools, schools in the Auckland region and Māori and Pasifika students had lower attendance levels post the first set of 2020 lockdowns. Similar sentiments were echoed by principals and teachers, citing that low-decile schools were more likely to have ongoing attendance concerns at 59% compared with high-decile schools at 33%.⁷⁶ Some principals noted disengagement during online learning throughout lockdowns as contributing to further disengagement in school-based learning.⁷⁷

To date, school attendance trends offer some insight into the effects of COVID-19 on school engagement and the ongoing challenges of returning to school after two years of disruptions.

These trends do not, however, form a complete appraisal of school disengagement and absenteeism levels in student populations. What is clear from these attendance trends is that more research is needed on the ongoing learning challenges and COVID-19 impacts on attendance and student engagement.

5. LESSONS & RECOMMENDATIONS

Our education system's response to the pandemic can be summarised as unprepared yet well-intended and often commendable. Much of the response from our primary schools was implemented in an emergency with strict time constraints for preparation, consultation and consideration of educational impact. From our primary schooling sector's experience and response, we can identify some lessons and opportunities for the Government, schools, learners, and families to explore and develop solutions for future-proofing our education system for future global emergencies and lockdowns. From these lessons, we endeavour to indicate how online learning can be done well and what role it can play in the future of primary schooling. The following recommendations aim to support and bolster the efforts across government and schools to combat the ongoing impacts of pandemic disruptions.

5.1 The post-pandemic recovery requires ongoing support

As schools have returned to the classroom, the ongoing impacts of the pandemic on primary schooling—from academic learning to well-being—are still largely unknown and unfolding. What has been identified from the current body of literature is that student well-being is still of concern for educators. Heightened anxiety and stress, particularly around the risks of transmission after the first set of lockdowns, have contributed to these concerns. The sudden shift to online learning and learning from home occurred in circumstances requiring trial, error and a reactive approach. Naturally, this comes at the cost of potentially deepening and widening educational disparities.

Researchers are still measuring and discerning how much learning loss has occurred, along with the development of recovery strategies. What can be stated confidently is that the absence of essential aspects of schooling, such as face-to-face interactions, the classroom setting and peer interactions took a toll on primary-aged learners. A GUINZ survey on school children's lockdown experiences highlighted a need for post-COVID-19 recovery strategies to account for different learning needs and lockdown experiences.⁷⁸ Younger learners also reported social and emotional challenges indicating they were not well

supported throughout pandemic disruptions. This may have long-term implications on a child's learning and development if it is not addressed in recovery strategies.

Throughout 2021, a large proportion of government support for schools aimed to curb the spread of COVID-19, from providing masks in schools to free flu vaccines for primary-aged learners. Extra funding was also provided for early childhood services and schools to support better ventilation over the winter season. A \$20m urgent response package was made available in 2021 for schools and Kura to assist in re-engaging learners with on-site learning. An additional \$43m in funding followed in September 2022 to address teaching shortages and the ongoing pandemic impacts on learning by bolstering tutoring programmes and services.

Although these funding packages appear hopeful, they must be taken with a grain of salt. Looking closely at the cabinet papers underpinning these packages, primary-school learners are not prioritised. The MoE identified year 7-13 learners as priority groups, perhaps due to NCEA and being on the tail-end of the education cycle. This was also seen in the MoE's digital rollout, where primary school learners missed out on digital access. This points to an inattention to younger learners' schooling.

We recommend ongoing support in the following forms to support schools in their recovery from the past two to three years of disrupted learning.

Recommendation 1: The Government should maintain funding streams for addressing learning loss in primary schools over the next five years. This funding is for additional tutoring programmes (released in September 2022) in schools to assist with remedial/recovery efforts from the ongoing impacts of COVID-19.

An injection of government funding to support the recovery efforts of schools throughout 2021/2022 needs to be continued if schools are to bridge the learning loss from pandemic disruptions. Adding tutoring programmes to hiring extra teaching support to a school's recovery kit requires financial support outside the school's annual budget.

Recommendation 2: Where it applies, schools should develop recovery strategies for learners with additional learning needs. This includes learners who may be neurodiverse, particularly anxious or have behavioural, social or emotional issues due to pandemic disruptions.

Recommendation 3: Schools should develop processes for distance learning and remote working, including education delivery modes, the structure of teaching and learning, and expectations for staff and students.

To ensure the smooth coordination of shifting to remote and online learning, schools must ensure that communication systems and necessary resourcing are in place to support these learning and teaching modalities.

5.2 Digital divide

For many learners, the ability to access online learning throughout the pandemic was limited due to no or limited digital access. The lack of access to learning devices and internet across different student populations was a barrier to learning throughout the pandemic. This was highlighted in the MoE's digital rollout of internet connectivity and devices where primary-aged learners' digital access needs were unmet. Teachers typically identified lack of access to a device or internet connection as one of the primary reasons for learning disengagement. In many ways, the digital divide was a tangible representation of a much larger learning divide in our education system.

Research demonstrates that learners who can navigate learning through online courses have the learning experiences, skills and ability to self-regulate and drive their learning. In instances like the pandemic or disaster where remote and online learning modes are used, the absence of traditional structures to support the building of knowledge and learning dispositions becomes problematic.

Our education system's online learning experience throughout the pandemic shed light on the need for more work to bridge the digital divide in our schools. This would include accounting for the offline factors that enable online learning, such as access to the internet and a learning device at home.

Recommendation 4: The Government should continue providing extended subsidies for filtered internet access and digital devices for learners needing digital access in their homes.

The Government's digital rollout in the first set of lockdowns did not prioritise the digital needs of primary school learners. The online learning experiences of primary school children pointed to barriers such as sharing devices in households where the younger learners were often a last priority. Ensuring all primary-aged learners have a learning device and internet connectivity is a step towards bridging the digital divide and strengthening a student's ability to learn, whether at school or online.

Recommendation 5: The MoE should develop monitoring systems to track the digital infrastructures of schools. This would include keeping a database of the number of devices in a school, its distribution across year levels, and the software and digital technologies used in the school curriculum.

One of the challenges of the Government's digital rollout of devices and internet connectivity was a lack of information about assessing learners' digital access needs. The process was complex because of information that wasn't accessible, either because the school did not have the information or because of the absence of processes and protocols for gathering information about a school's digital infrastructure. An MoE monitoring system of what software a school uses and how many learning devices it holds would be helpful to address such administrative barriers.

5.3 Reimagining the role of technology and online learning in schools

The abrupt disruption to in-person learning forced schools to adapt to remote and online learning quickly. The rapid shift to remote teaching and online learning showed that the preparedness of schools varied dramatically. Points of difference included students' device and internet access, how a school integrated technology and online learning into their local curriculum, and the teacher's skill level and expertise around online learning. If managed poorly, these factors acted as barriers to positive online learning experiences and made it more challenging for students to learn.

However, the upside is an opportunity to reimagine how technology and online learning are integrated into schools, the curriculum, and the classroom. Much can be taken from teachers' and learners' positive online learning experiences. This includes how online learning can be used to ensure learning continues even in national or global emergencies and to extend the range of professional development opportunities for teachers. Additionally, online learning provided a platform for reassessing teaching practices shaped by the science of learning to enhance student engagement and online and offline learning. For example, teachers could create short instructional videos to accompany a learning task that students can access from home.

Recommendation 6: The MoE should create a centralised hub of teaching resources, particularly on the science of teaching and pedagogy of using technology in and outside the classroom.

Many educators noted that the nature of the face-to-face classroom was not replicable at a distance, and much of the richness of informal discussions was lost. These gaps are better seen as opportunities for innovation around technology and online learning. These lost opportunities may be grounds for investment and resourcing of teachers to become more confident and competent in technology to create environments for deeper learning opportunities. To make this happen, the MoE needs a centralised hub of teaching resources that aligns with the science of learning and extends to online learning.

Recommendation 7: Schools should ensure that students and staff members have adequate knowledge and skills in ICT.

In some cases, an educator's limited ability, competence, and confidence in using technology played a role in a school's unpreparedness for delivering online learning. It remains imperative that all students and teachers are equipped, trained and supported in the use of technology in and outside of the classroom.

5.4 School engagement with learners and families

For some educators, lockdowns provided an opportunity to build or strengthen their relationships with families as it offered greater insight into their students' home lives and opened up new communication channels. The

frequency and consistency of communication between school and home played an important role in students' and parents' experiences. For parents, having their children learn from home brought an awareness of their child's learning progress, where the learning gaps were, and gave insights into what schools were teaching. It also provided opportunities for deepening relationships with their child's teachers and school and a greater partnership in meeting their educational needs and aspirations.

Due to the absence of in-person contact, lockdowns provided opportunities for schools to be creative and innovative in how they engaged with families. In some cases, teachers found it helpful to employ the help of senior management, such as deans and senior leaders, to communicate with disengaged families and learners who needed extra support. The increased communication between schools and families helped parents in supporting their own child's learning at home. The challenge for many schools is figuring out how to maintain and grow this renewed sense of partnership and collaboration with parents and families.

Recommendation 8: Schools should incorporate engagement strategies used to stay in regular communication with families throughout pandemic disruptions and integrate them into school operations and school culture where appropriate.

The heightened communication between schools, teachers and families strengthened relationships throughout the pandemic and provided an opportunity to integrate effective engagement strategies used throughout lockdowns into a school's daily operations and wider school culture.

5.5 Support for Teachers

Throughout the pandemic, teachers' online learning and remote experiences varied due to factors like digital access for students or an educator's ability to use technology and deliver online education, to name a few. The transferability of basic principles of effective teaching across online and in-person learning has been identified as a common ground amidst this variance.

Developing deeper learning opportunities requires teachers to be effective pedagogues, hold high expectations for all students, and be strong curriculum

thinkers and designers. Lockdowns allowed educators to extend their skills and knowledge to meet learning needs and maintain student engagement.

For educators to become effective curriculum designers, resourcing and targeted support are needed from the MoE, in particular, material for teaching and lesson plans. At the school level, this may entail prioritising time for ongoing professional development in certain areas, such as using technology in instructional practices for online learning.

Recommendation 9: The MoE should provide funding support for professional development opportunities to enhance the use of technology in and outside of classrooms. This includes providing support for schools and ongoing professional development for pedagogical development.

All teachers employ a theory of learning that shapes how they design their instructional practice. Teachers' theories of learning must be informed by and encompass up-to-date research on how cognition works so that they can create learning opportunities that will have the maximum impact on their students.

Recommendation 10: Schools should consider instructional practices that enable teachers to attend to students' well-being yet remain balanced with academic learning.

Many schools, families and learners recognised the importance of well-being throughout lockdowns, and educators often prioritised well-being over academic learning. Educators must, however, maintain the focus on both spheres as both are necessary for student achievement.

6. CONCLUSION

The Government's response to COVID-19 forced our education system to respond as best it could and to reimagine the future of schooling. We can glean from the current evidence that our primary schooling sector's digital response to COVID-19 and subsequent lockdowns varied from purely online learning to a blended mode of physical and digital learning materials. School closures and lockdowns accelerated the use of online platforms and digital technologies for learning, such as Google Classroom, Education Perfect and YouTube.

In the absence of engaging in online learning, alternatives ranged from paper-based learning packs to educational TV programmes for primary-aged learners. Lockdowns also provided opportunities for educators and schools to develop and refine teaching practices and pedagogy around online learning, such as experimenting with different apps and classroom technology and curating learning tasks so that they build logically from one another, facilitating more profound levels of knowledge.

Using online learning to respond to these disruptions was challenging. Some notable gains from our online learning experience were increased engagement between schools and families throughout lockdowns. Strengthening relationships between learners, families, and schools enabled continued learning despite the emergency-like circumstances. Other gains included the opportunity for educators to trial the use of technology and online education. This allowed educators to assess how online learning can be done well and incorporated into classroom learning.

Our primary schooling sector's COVID-19 response presented an opportunity to do things well, such as how to use online learning and technology in schools and how to improve relationships between schools and families. At an individual school level, there is an opportunity for schools to equip teachers further to implement the use of online learning and technology in the classroom well.

At a national level, there are now challenges for future governments to better support schools, equipping them for future emergencies. The question remains how, as a country, we will choose to address these challenges. Our education system's response to the pandemic has provided lessons and solutions. Our collective task is to adopt these lessons to improve our understanding of our present education troubles and build an education system fit for an uncertain future.

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