Aka Kōrero

Touchpoint (full report) June 2021

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Te reo o ngā kura e pā ana ki te tāwharau-a- matihiko, te hono matihiko me ngā whakatara hangarau

The voice of schools on topics of online safety, digital inclusion and other IT challenges

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Aka Kōrero |Touchpoint - The voice of schools

1. Kōrero whakataki | Introduction

1.1 Background

N4L surveyed schools connected to our Managed Network between 8 - 30 June 2021 to learn more about the challenges they face while using the internet for learning. The responses provide valuable insights to help us understand what's top of mind for school leaders. This will help us plan ahead and continue to improve the ways we connect 2,450+ schools and kura to safe and reliable internet, while protecting 860,00 ākonga and kaiako from online threats and harmful digital content.

The last time we surveyed schools on similar topics was in 2018 and these findings were released in a 2019 report.

1.2 Participants

We received 563 responses from 550 schools (which is 22% of all the schools connected to our Managed Network), and more than half of respondents (56%) were principals, followed by deputy principals and nominated IT representatives. See Appendix C for the list of questions and Appendix D for more information on survey participants.

1.3 Format

The survey questions were grouped into three themes which form the basis of this report:

Online safety
We canvassed schools' confidence in protecting their students online, the strategies they use, and the biggest challenges they face keeping them safe.

Digital inclusion - learning from home
We explore how many students don't have home access to devices or internet for learning as well as the challenges schools experienced when their students were learning from home during the first, 2020 COVID-19 lockdowns. We also look at how many schools provide devices to students for learning and whether they can take them home.

IT challenges and support
Schools share the biggest challenges they face using technology and reveal what areas they'd like more support with.

2 Te tāwharau-a-matihiko i ngā kura | Online safety in schools

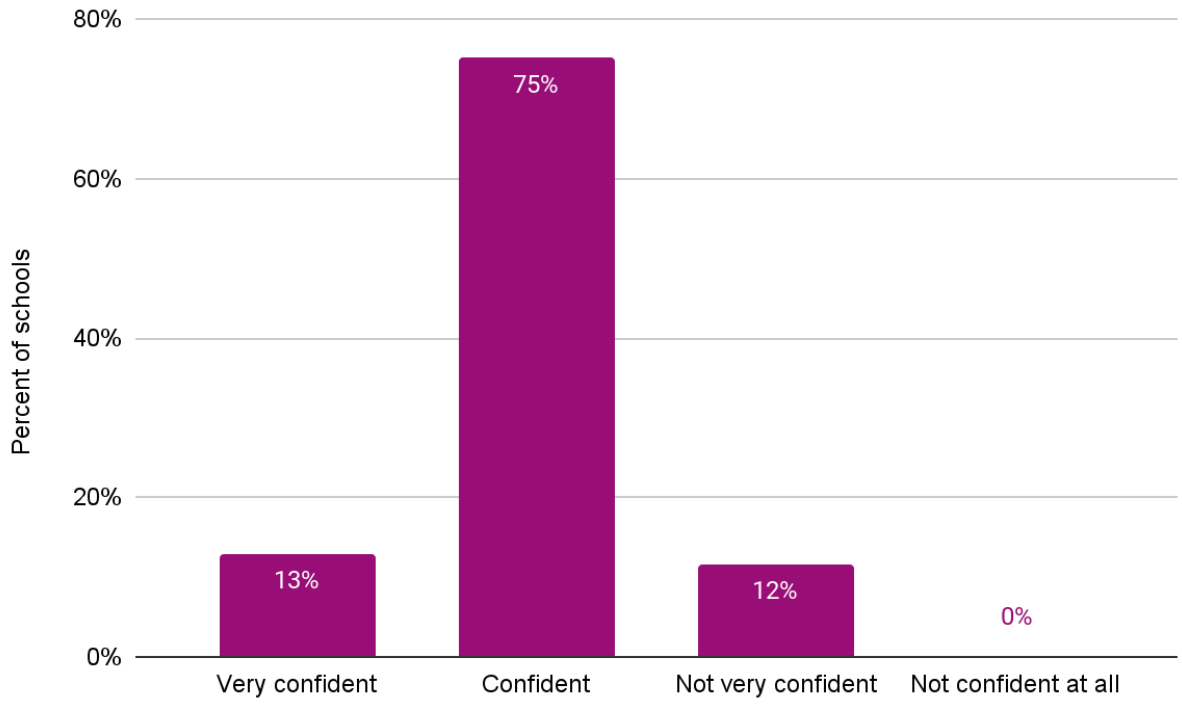
2.1 Schools' confidence in protecting students online

Responses: 548

Most schools (88%) indicated they were confident in their ability to protect students online, with no significant differences by school type, school size or decile.

While N4L did not ask this question in its previous school survey (from 2018), a survey by IDC that same year found 59% of New Zealand schools were worried about internet safety and privacy for their students, suggesting confidence has grown significantly since this time.[1]

Figure 1: Schools' confidence in their ability to protect their students online.



[1] IDC (2018), p. 10.

2.2 Strategies schools use to protect students

Responses: 549

We asked what strategies schools use to protect their students online. The most common responses were:

- *internet use agreements* (86%) - which lay out expectations for online behaviour at school and are signed by students
- *filtering* (84%) - which blocks access to inappropriate or distracting websites[2]
- *proactive management by school leaders* (52%) - who regularly review policies and guidelines dealing with cyber safety.

The use of a reporting tool to review online activity was the least common strategy, used by 23% of schools.

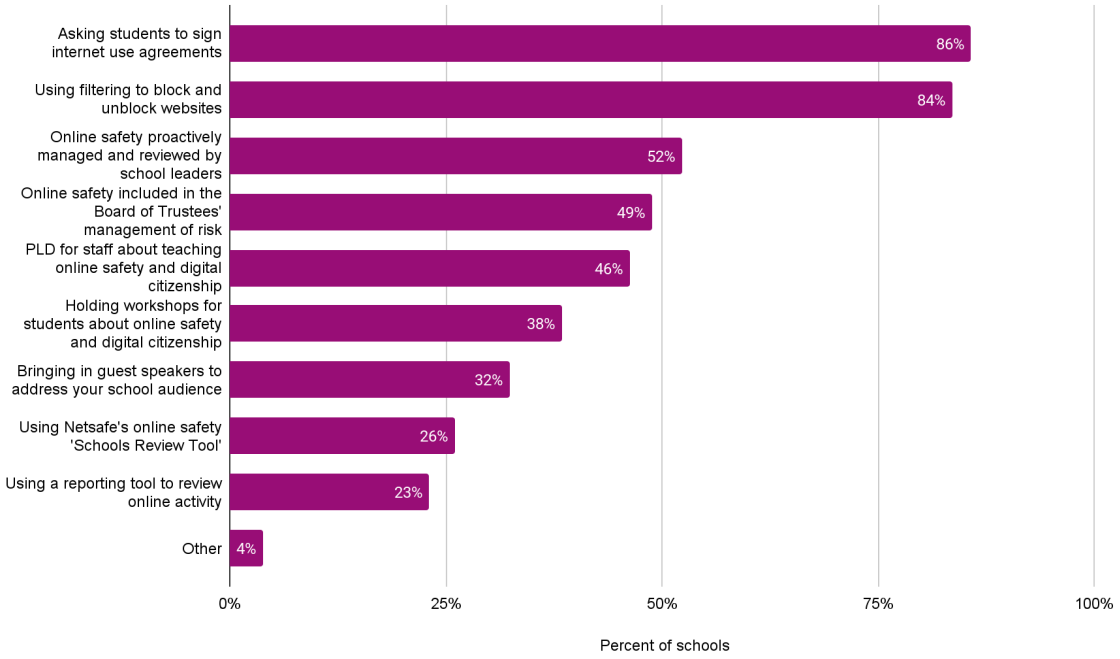
Secondary schools are more likely to use a reporting tool (44%) than primary schools (19%). As secondary schools tend to have larger student rolls, it can be more challenging to keep on top of individual internet activity. Older students are more likely to push boundaries on the agreed rules for online behaviour, attempting to visit sites schools have blocked, and reporting can help teaching staff identify when this happens.

Smaller schools[3] are less likely to bring in guest speakers to address their school community (22%) than large schools (42%). They're also less likely to hold workshops for students about online safety (29%, compared to 48% of large schools), whereas larger schools are more likely to provide staff with professional learning and development (PLD) on this subject (56% vs. 38% of small schools).

The costs of paying for speakers and workshops, and the coordination required to organise an event may be prohibitive factors for smaller schools. Further, only 11% of smaller schools use reporting tools compared to 40% of larger schools.

[2] N4L's Safe and Secure Internet standard for schools, which includes a combined firewall and web filtering service, is in place at 91% of schools using N4L's services.
[3] In this research, small schools had between 0 - 100 students, medium schools had 101 - 400 students and large schools had more than 400 students.

Figure 2: Strategies used by schools to protect the online safety of their students.



2.2.1 What cyber safety strategies increase schools' confidence?

Responses: 454

We asked schools to describe in their own words what approaches they used to boost their cyber safety confidence. Five themes emerged.

1. Web filtering

Almost 40% of schools said web filtering increases their confidence that their students are protected on the internet. This finding complements a Netsafe survey that found 58% of teens agreed filtering was helpful in keeping them safe online.[4]

The ability to block the sites schools wanted students to avoid accessing during class time was found to be reassuring. It was often mentioned in conjunction with other measures, including education and awareness programmes and having clear student internet use agreements in place.

[4] Netsafe (2018), p. 4.

That being said, students bypassing filters was cited as a significant challenge (see section 3.3). Schools with younger students may be encouraged that filtering helps prevent children from stumbling upon inappropriate websites, but it may be less reassuring for schools with older, tech-savvy students.

Some schools mentioned that proactively keeping track of what they were filtering helped boost their confidence, while others trusted that the worst of the web was being blocked by default. Some commented that legitimate resources were occasionally blocked and took this as confirmation that the filter was working effectively.

2. Education

Just over 15% of schools mentioned that education around digital citizenship improved their confidence. Open dialogue with teachers, students and parents about the importance of online safety and appropriate online behaviour helped assure schools that they could rely on students to do the right thing. Education on cyber safety was often mentioned in conjunction with web filtering.

3. Monitoring and supervision

Schools mentioned they kept online behaviour in check by supervising device use during class time, checking students' web browsing history or using online monitoring tools offered by companies like Hāpara or Linewize. In line with this, some schools pointed out that small school rolls, small class sizes or using fewer devices made it much easier to manage online safety.

A Netsafe survey found that just under half of teens (45%) agreed that monitoring or supervision online is a helpful measure to keep them safe, while a quarter said it was unhelpful, demonstrating less consensus from teens about the usefulness of this tool.[5]

4. Internet use agreements

These agreements outline expectations for online behaviour at school and are signed by students. They're cited as helpful for keeping students safe online and are supported by clear policies to help schools manage incidents.

5. Experienced staff

Schools value the expertise of their in-house IT staff, and some engage external IT companies to help keep their online environment safe. Further, schools generally trust their staff to teach students about online safety. This includes the ability to manage students' online behaviour and to deal with any incidents.

[5] Netsafe (2018), p. 5.

2.2.2 Helping less confident schools

Responses: 66

Schools predominantly want access to knowledge, expertise and support. They want to know more about online dangers, including security threats or apps used by students to get around filtering.

They also requested free, accessible, easy-to-use tools that alert them when students attempt to access inappropriate or distracting material during class time. In addition, they want more granular filtering, for example preventing students from Googling certain keywords.

Others (10%) weren't sure what they needed to improve their confidence, suggesting schools may need more information and support around cyber safety to understand their options.

"More information about the real dangers and more time to speak with kids about this - so, more funding to get experts in, etc. I attended a PD session with [the author of Keeping Your Children Safe Online] John Parsons a few years ago and it was excellent."

2.3 Schools' biggest online safety challenges

Responses: 512

Schools identified five key online safety challenges.

1. Keeping students safe from dangers and distractions

Students accessing inappropriate or distracting content was cited as the most common challenge. They may accidentally stumble upon these websites, deliberately seek them out or end up somewhere they shouldn't due to their "natural curiosity". Web filtering is a commonly used tool to prevent students looking at things they shouldn't be, but it is not a panacea.

While filtering can shield students from unsafe or off-task websites, pop-up ads and images presented on legitimate websites can be challenging for filters to deal with. This is because filters tend to block specific website addresses and categories, rather than images or other content embedded in websites.

YouTube is also challenging to filter. The wide variety of content available on YouTube and other streaming sites means that an initially harmless visit may result in students seeing something

age-inappropriate. Streaming media represents about a quarter of all data consumed across our network, with YouTube as the most popular streaming site.[6]

> ***"Student's natural curiosity. As digital natives, they find their way all over the place."***

> ***"Students using Google search to find inappropriate images. This is due to Google only filtering explicit images using their Safe Search feature."***

> ***"Youtube. It is such an effective learning tool, but it is also such a risk."***

2. Online safety beyond the school gates

Outside of school hours, students may use their own devices in ways that may not be acceptable at school. There may be more freedom at home and filters might not be applied, prompting students to push boundaries when using the internet back at school. Cyberbullying was often mentioned as a challenge, with schools having to mediate these issues when they originated on social media used at home.

Netsafe recommends parents engage with their children about what kinds of things they're doing on the internet, including what apps they're using or what games they're playing. Their research shows 43% of parents surveyed used either parental controls or filtering on their children's devices, while 42% stayed on top of what websites their children were visiting.[7] Further, 39% of parents did not permit their children to use social media and the remainder allowed this either with or without supervision.

The expectations between some schools and parents varied around access to mobile phones during school time, where some parents might want their children to be contactable by phone, while some schools didn't want students to have access to phones during class time.

[6] N4L (2021), p. 7.
[7] Netsafe (2021), p. 8.

"The availability and inappropriate use of online tools outside of school hours comes crashing through our gates for us to manage."

"For some, digital citizenship is something you do at school but then forget about when you are at home."

"Some parents allow students to access anything they like without monitoring them and then they try to use inappropriate sites at school."

3. Monitoring students is time intensive

Schools don't always feel like they can trust what their students are doing online, requiring the need for supervision. Teacher supervision is not always enough, with children switching tabs or deleting their history to disguise where they've been.

For schools using a digital tool to monitor internet use, some reported they were able to use them effectively (as evidenced in section 2.2.1), but others said that they couldn't find time in the day to review the information presented, as this would cut into their already-busy school schedules.

"Being able to keep an eye on the children while they use the internet as a class. Spot checks can be made but it is impossible to know what all children are up to at once."

4. Tech savvy students will find ways to bypass filters

Students can find ways to bypass filters by using mobile data or VPNs, which N4L blocks by default for safety reasons. As new VPNs surface, they are detected by our filtering technology and subsequently blocked. Tech-savvy students can find them before this happens and evade filters.

While schools set boundaries to keep students focused and on-task in the classroom, non-compliance with these rules was cited as a major issue.

> ***"The students tend to be at the bleeding edge of technology, and if an exploit exists, then they will find and use it. For the determined, a filter is no barrier."***

> ***"The amount of new pop-ups and ways for students to bypass filtering systems means we play catch up."***

5. Teaching students to be good digital citizens can be difficult

Despite setting clear expectations for acceptable online behaviour, some schools mentioned it was a challenge getting students to uphold their end of the deal. Some students continue to flout the rules, with schools saying it could be difficult to get students to take online safety seriously.

Schools acknowledge that incidents will happen regardless of what filtering or monitoring solutions are in place, saying ongoing education and support are essential to help their students understand how to stay cyber safe.

> ***"They think bad things will never happen to them and go on sites they shouldn't, even in class time."***

> ***"Understanding that technological solutions to online safety are only part of the solution (but an important part)."***

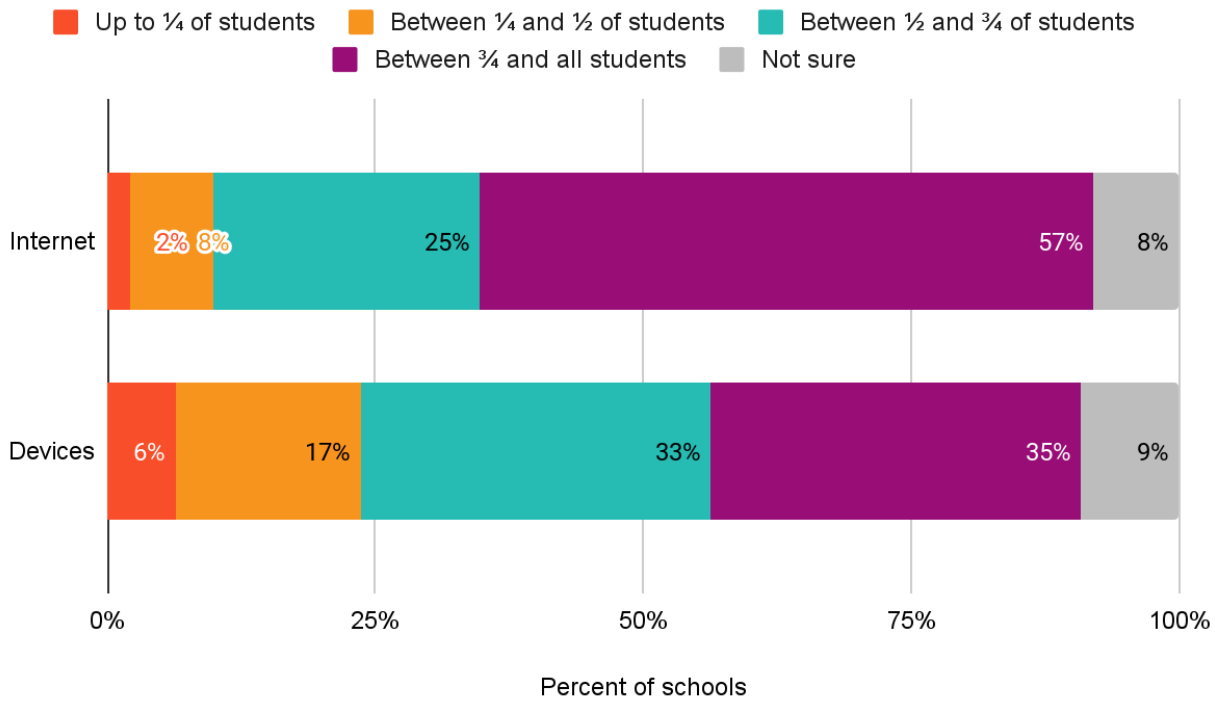
3 Te hono matihiko – ako mai i te kainga | Digital inclusion - learning from home

3.1 Home internet and device access

Responses: 549

There continue to be thousands of students living without internet access at home, and even greater numbers without access to a device that is not a mobile phone. Ten percent of schools said that more than half of their student body did not have internet access, and 24% said the same for device access. This marks a notable improvement from 2018, when 21% of schools reported more than half of students had no home internet access.

Figure 3: Percent of students with access to the internet and devices that aren't mobile phones at home.



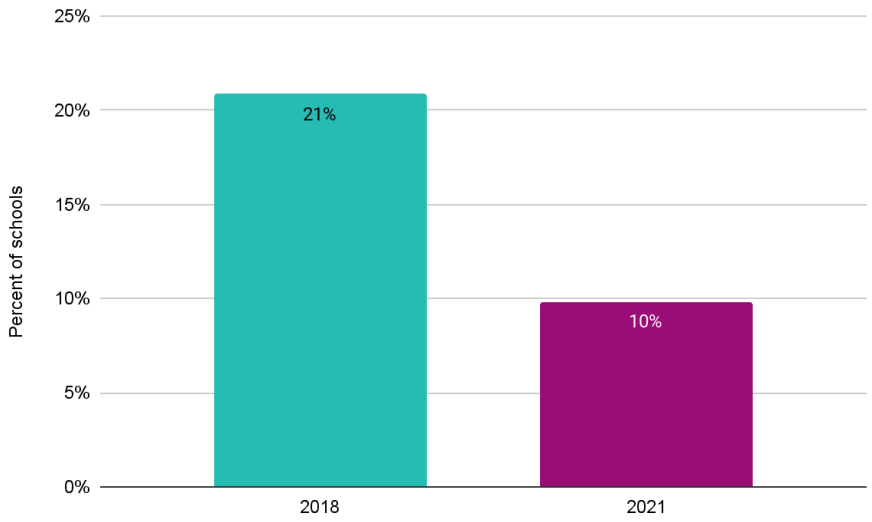
Efforts by the Ministry of Education and others likely contributed to the increase in home internet connections. During the 2020 nationwide COVID-19 lockdown, research by the Ministry of Education showed an estimated 82,000 homes with 145,000 ākonga lacked an internet connection.[8] Since that

[8] Ministry of Education (2020a), p. 2.

time, the Ministry has provided over 33,000 additional households with free internet until the end of 2021.[9]

Further, device access is likely to have improved since the first Covid-19 lockdown in 2020, with the Ministry of Education providing over 45,000 devices to students nationwide to support remote learning.[10]

Figure 4: Percent of schools where less than half of students have home internet access between 2018 and 2021.



Decile differences

Students at the lowest decile schools are the least likely to have access to the internet at home, with 23% of decile 1-3 schools saying that less than half of their students have access. This compares to 6% of decile 4-7 schools and 1% of decile 8-10 schools. Efforts to provide home internet access to those in need have been well-targeted with significant improvements since 2018: 55% of low decile schools said that less than half of their students had home internet access in our previous survey.

On top of this, students at low decile schools are also less likely to have access to a device at home compared to their higher decile counterparts; 47% of low decile schools said more than half of their student body lacked device access at home compared to 7% of high decile schools.

[9] Ministry of Education (2020b), p. 5.
[10] The Spinoff (2021).

Figure 5: Decile differences in the percent of schools who say that less than half of students can access the internet at home between 2018 and 2021.

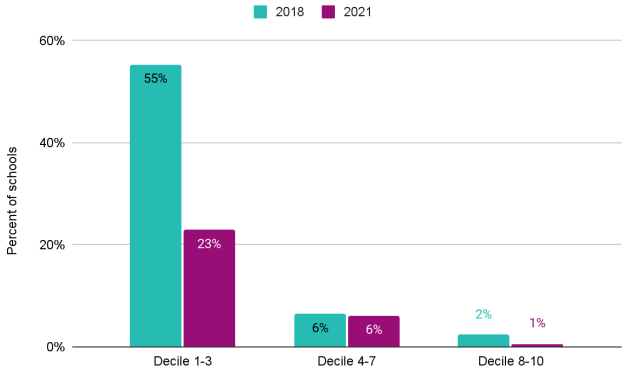
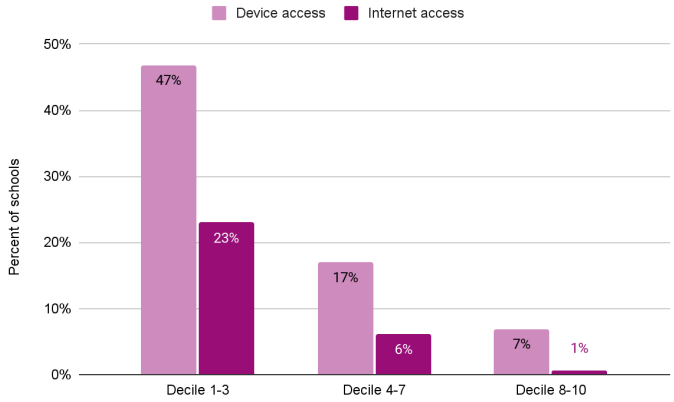


Figure 6: Decile differences in the percent of schools who say that less than half of students have access to the internet or a device at home.



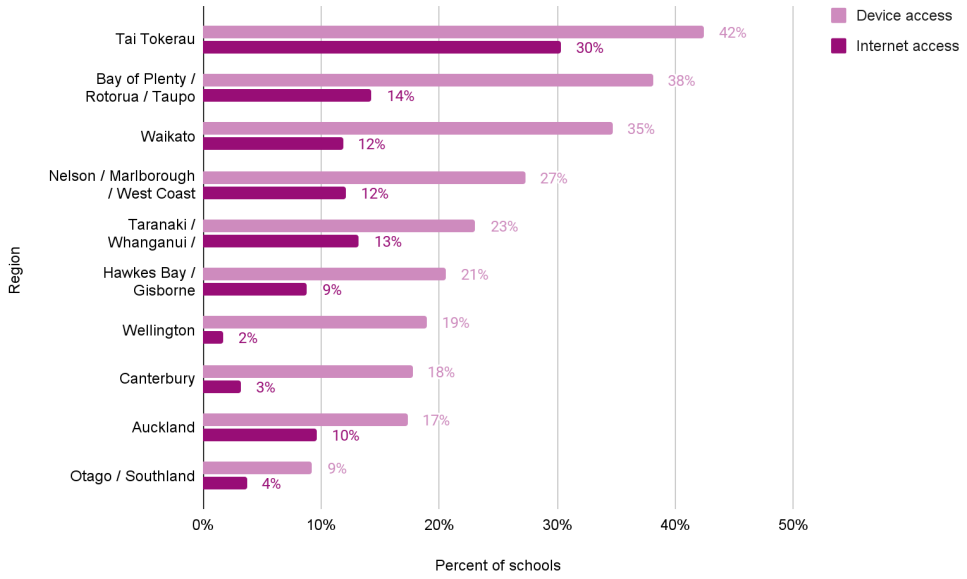
Regional differences

Students in Tai Tokerau are the least likely to be able to use the internet and devices at home, with 42% of schools saying that less than half of their students have device access, and 30% saying the same for internet access.

Students in the Bay of Plenty, Rotorua, Taupo and Waikato regions show a similar pattern for devices, though their levels of internet access more closely resemble those seen across the rest of the country.

Students are most likely to be able to access devices at home in Auckland, Otago and Southland regions, while internet access is most common in the Wellington and Canterbury regions.

Figure 7: Regional differences in the percent of schools where less than half of students have access to devices or internet at home.



School type differences

Secondary school students are more likely to have access to a device at home than primary school students. And students at large schools are more likely to have home device access than those at medium-sized or small schools. As secondary schools tend to be larger, it's likely these findings are linked.

Secondary school students may be more likely to need a device for independent home study or to complete NCEA assignments, and parents may be more comfortable with providing devices for children once they're older.

3.2 The impact of home internet and device access on learning

Responses: 545

Just over 70% of schools said that access to either devices or the internet at home had an impact on teaching and learning, with schools slightly more likely to say internet access had an impact (59% vs. 53% saying that devices did). Just over 40% of schools said that both access to the internet and devices have an effect on learning, demonstrating that having both is an important prerequisite for learning at home. It's difficult to learn with access to one but not the other.

COVID-19 lockdowns

School closures during Alert Level 3 and 4 lockdowns have highlighted the importance of the internet for remote learning. The percentage of schools saying that home internet access impacts learning increased from 25% in 2018 to 59% in 2021.

This impact was perceived to be fairly low in 2019, when the New Zealand Council for Educational Research (NZCER) reported just over 20% of schools said that using digital technology for learning can create difficulties because not all students can access this technology at home. It appears that this shift in the impact of device and internet access on learning coincided with the arrival of lockdowns in New Zealand.

School type differences

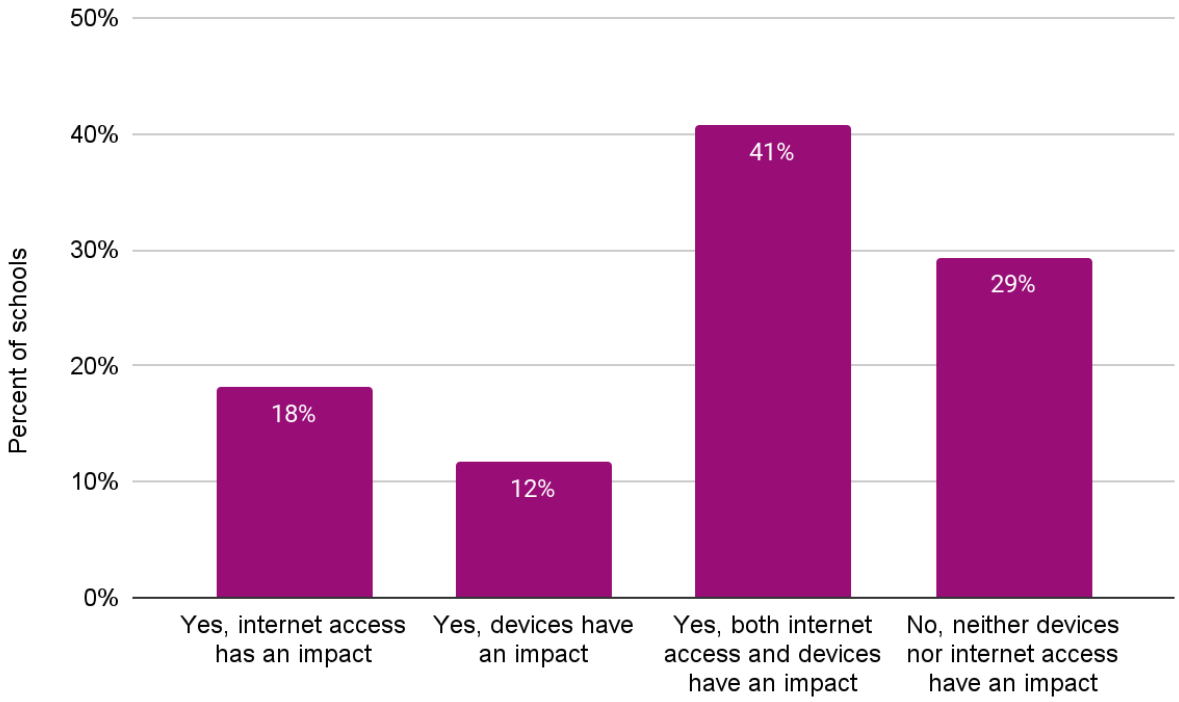
Secondary schools are more likely to say that either device or internet access have an impact on teaching and learning (86%) than primary schools (69%), though older students are more likely to have access to a device at home (see previous section).

Decile differences

The effects are felt more at lower decile schools where there is a greater disparity in home internet and device access, with 81% of decile 1-3 schools indicating they are impacted by a lack of access (81%). This compares to 58% of decile 8-10 schools.

The impact may be felt more starkly when teachers at lower decile schools need to provide hard copy materials due to lack of home technology access.

Figure 8: Do schools think that internet or device access at home has an impact on teaching and learning?



3.2.1 What happens when students can't access digital technology at home?

Responses: 360

We asked schools what happens when students don't have home internet or device access.

1. Students can't access online resources

Students may struggle to complete research for essays, projects or other online homework without access to technology at home. These students may have to find extra time to do this work at school or may not be able to finish it at all.

This can lead to learning inequities. Students may fall behind or feel left out if they can't participate in online learning. They may also feel unable to use devices effectively at school, falling behind in their digital literacy.

> ***"Much of our content is now delivered online - so the few students who don't have quality devices and suitable internet are at a disadvantage."***

2. It's harder to connect with students and whānau

While this point was mentioned the last time we surveyed schools in 2018, it was more common following the 2020 lockdown, where the internet became a core channel for maintaining community relationships. Outside of lockdowns, schools still have trouble letting parents know how students are progressing and are unable to send newsletters to keep parents up to date.

> ***"Particularly during lockdown, the children are unable to connect with their peers and lose that vital relationship building opportunity."***

3. Attendance and engagement can decline

Lack of communication can lead to disengagement from school and learning. This was exacerbated during the lockdowns, with fears that students may not return to school once the alert levels were lowered. The Ministry of Education's research showed that while no more students unenrolled from school than average after the 2020 lockdowns,[11] attendance declined once schools reopened, particularly for Māori and Pacific students and those attending low decile schools.[12]

> ***"These students feel left out and cannot engage in the learning. This is especially true at the senior levels with NCEA."***

4. Teachers are limited by what kind of home learning they can assign

If students can't access online resources at home, teachers may have to put more work into finding or developing hard copy resources for students to try and avoid inequity in learning. This limits the breadth of learning resources teachers have at their disposal.

[11] Webber and Evidence, Data and Knowledge, Ministry of Education (2020b), p. 1.
[12] Webber and Evidence, Data and Knowledge, Ministry of Education (2020a), p. 1.

> ***"There are limitations to the actual type of homework we can give the children."***

5. Schools need more than access to internet and devices

The quality of students' connections, the types of devices available, and the time they can spend using them can also impact learning. Students may have to share devices with others in their household, limiting the time available to complete their assignments. Others only have smartphones, which many schools said were not appropriate for online education. And others mentioned that families may have limited mobile data plans which needed to be conserved for other purposes.

> ***"Students in lockdown may have had devices at home, but many mums and dads required them to work from home so access was limited."***

3.3 Learning from home - challenges during COVID-19 lockdowns

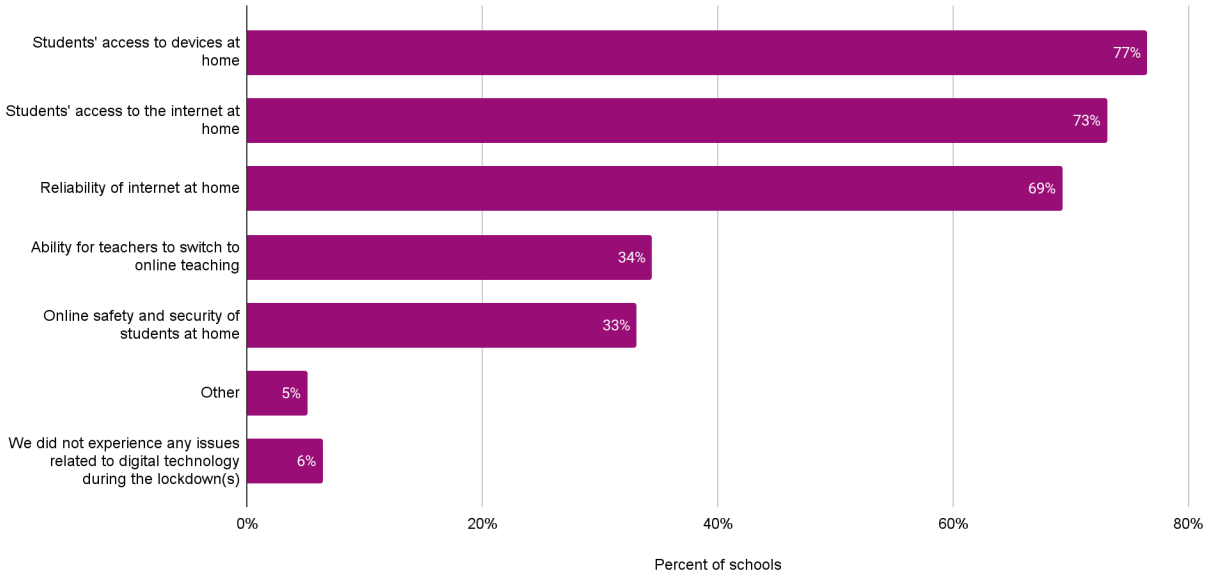
Responses: 549

Schools said that access to devices (77%) and access to the internet (73%) were the biggest technological obstacles faced during the COVID-19 lockdowns, followed by unreliable internet (69%). These issues had to be overcome by the majority of schools when they were closed during Alert Levels 3 and 4.

While students at low decile schools were less likely to have access to home internet or devices, the challenges of reliable internet were felt across deciles equally. Interestingly, large schools were less likely to have dealt with unreliable internet during the lockdowns (57%, compared to 75% of small schools).

A third of schools noted that online safety and security was also an issue for students learning from home. To support online safety N4L offers a free filter that can be applied to a child's learning device to block the worst of the web from home.

Figure 9: Digital technology challenges faced by schools during the 2020 COVID-19 lockdowns.



The impact of technology

Online research from The Education Hub showed unreliable internet and the need to share devices in households impeded the ability of students to participate in video calls; teachers said these are crucial for keeping students engaged and maintaining personal connections.[13] Video calls and other forms of online communication allow teachers to provide in-the-moment feedback and help establish routines for children, with predictable and regular contact. Schools that had previously used online learning had a more seamless transition to relying on it during lockdowns.[14]

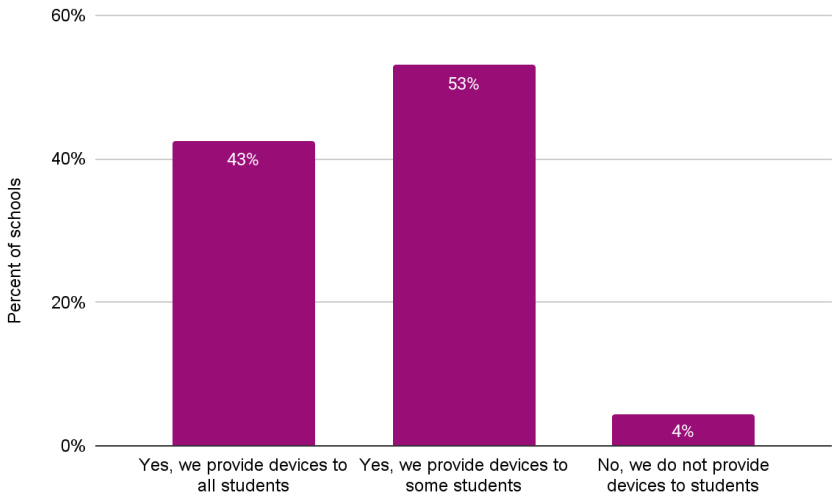
3.4 Providing school-owned devices to students

Responses: 548

The majority of schools (96%) provide either all or some of their students with devices. Almost half (43%) provide devices to all students for learning. This aligns with other research that shows that 87% of schools provide a pool of devices for ākonga.[15]

[13] Hood (2020), p. 9.
[14] Education Review Office (2021), p. 13.
[15] IDC (2018), p. 6.

Figure 10: Do schools provide devices to their students?



Secondary schools are less likely to provide devices to all their students (29%) than primary schools (45%). Sixty-seven percent of small schools provide devices for all students, compared to 24% of large schools. Cost and logistics may prohibit schools from ensuring a 1:1 student to device ratio for schools with larger numbers of students.

Lower decile schools are more likely to provide devices to all students (51%) than higher decile schools (35%). Students at higher decile schools may be more likely to be able to bring their own device to school, rather than having one provided.

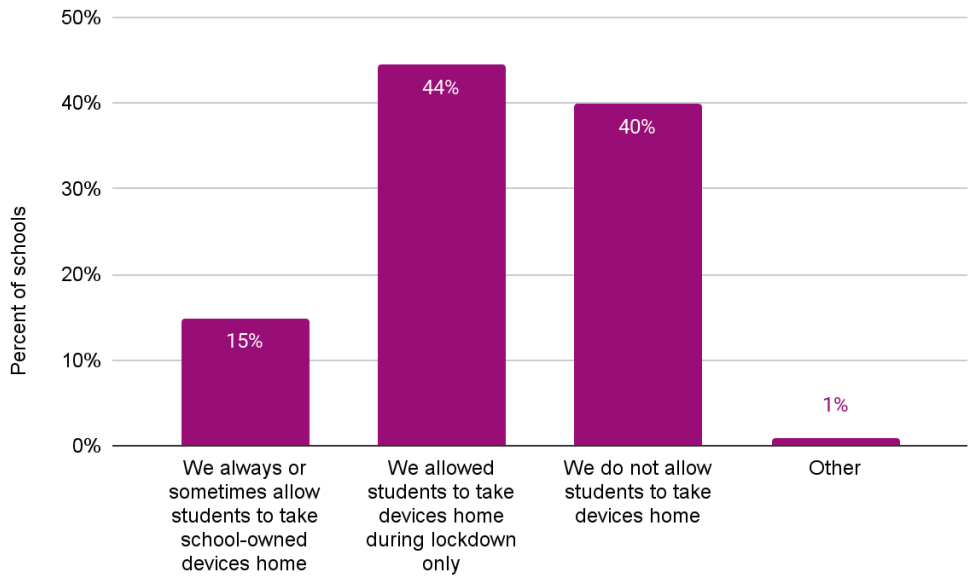
Taking school-owned devices home

Although most schools provide devices to their students for school use, many will not allow students to take devices home (40%), with others allowing them to be taken home only during lockdowns (44%). Home device access may be seen as less important if students can access devices freely at school when they are operating normally, with schools changing their approach during extreme circumstances, acknowledging devices are needed for extended periods of remote learning.

Our findings align with other surveys of schools; IDC found that schools provide a large proportion of the devices in their school, but almost none of the school-provided devices could be taken home.[16]

[16] IDC (2018), p. 26.

Figure 11: Do schools allow students to take school-owned devices home?



4 Ngā tautoko-ā-matihiko | Support for IT challenges

Responses: 453

Schools identified they'd like technology support in these four areas:

Internet capacity

"Improving the internet" was the most common request for support, mentioned in almost a quarter of responses. This included fixing dead spots, boosting speed and ensuring coverage was reliable throughout the school. Some schools also mentioned they wanted to upgrade their internal Wi-Fi networks.

Device access and management

Support for managing the lifecycle of a device within a school was the next most common IT request. This included implementing mobile device management, carrying out updates, as well as repairing and upgrading devices when required. It's important for schools to ensure that the devices in their school are ready to use. This includes integrating with existing systems in the school as well as having the relevant apps deployed.

Schools felt that they didn't have enough devices in their school to support their students. Others said that as their devices aged they were costly to replace. The barrier of cost was commonly mentioned, preventing schools from increasing device-to-student ratios to a level they're happy with.

Filtering and reporting

Some schools want support managing filtering in their school, including general advice, customisation and assurance that filters are operating correctly. In addition, this was commonly mentioned in conjunction with the ability to monitor internet use in real-time and potentially get notifications if students try to access blocked content.

Professional learning and development for school staff

Schools found it important to improve the digital skills of their teachers so they could use these skills in the classroom. Examples include implementing the digital technologies curriculum, training to use Google Suite or understanding cyber security.

How N4L supports schools in these areas

N4L is helping support schools by upgrading the wireless networks inside schools through the Ministry of Education's Te Mana Tūhono programme. The aim is to boost reliability, capacity and resilience of the internet within schools, as well as boost cybersecurity support, with all participating schools[17] scheduled to be upgraded by 2024.

This programme includes some support for devices through a cloud solution that ensures all school-owned devices, BYOD, and guest users are set up to access school wireless networks securely. We've appointed a panel of IT support companies to help schools with this.

Further, N4L has released a Reporting app to make it easier for teachers to see which websites and apps are being used across the Managed Network. This includes attempts to access blocked content. Ongoing development of N4L's Reporting app will focus on providing a window of information to support schools with pastoral care, child wellbeing, and learning outcomes.

[17] Schools participating in the Ministry of Education's Te Mana Tūhono programme are eligible for this upgrade.

5 Kōrero Whakakapi | Conclusion

The COVID-19 lockdowns have thrown a spotlight onto the digital divide. While internet access at home has improved since we last surveyed schools, they're feeling the effects of the digital divide more fully, and it is more important than ever to ensure that all students can continue to learn at home with a suitable device and a reliable internet connection.

Schools are confident in their ability to protect students online, but they could use more support to ensure they are fully informed about all the options around available tools, and that they have resources at their disposal to teach students about using the internet safely. While students operate in a safe and secure online environment at school, there aren't always the same protections in place at home, showing that expanding support to parents is also important.

While schools are experiencing a range of technology-related challenges, they identified four primary areas where they would like more support: internet capacity, device management, filtering and professional development. N4L is already supporting schools with some of these challenges, including upgrading wireless networks through the Te Mana Tūhono programme and developing tools such as our Reporting app to strengthen cyber safety in schools.

If you have any feedback or questions about this report, please contact insights@n4l.co.nz. Our dedicated helpdesk team is also available on 0800 LEARNING (532 764).

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