

What do teachers and principals think about digital technology in the curriculum?

Some principals and teachers wrote a comment about the inclusion of digital technologies as a strand in the technology learning area of the curriculum.

Of those who commented:

40% of teachers and 19% of principals made a generally positive comment.



I think it's a great idea and a really positive move forward for NZ education. (Principal)

Necessary in today's world. (Teacher)



22% of teachers and 30% of principals commented on funding and infrastructure support.



Great idea, but how do you make it equitable and achievable for ALL schools, low or high decile? (Teacher)

It is a strand whose ongoing costs are challenging to finance through the budget. (Principal)



18% of teachers and 35% of principals questioned whether digital technologies should sit within the technology learning area, or be integrated across the curriculum.



I feel digital technology is a tool to access all learning areas of NZC. I do not believe it should sit within the technology strand exclusively. (Principal)



I believe there are aspects of digital technology that need to be taught as a separate strand but there are also aspects that need to be integrated into other curriculum areas. (Teacher)

17% of teachers and 15% of principals commented on the need for adequate professional learning to support teachers' capabilities with digital technology.



What do principals and teachers say about infrastructure and support for teaching with digital technologies?

Teachers say:



their school's internet access is adequate and reliable.



they have good technical support to deal with problems



that school equipment is adequate and reliable

56% say they have the knowledge and skills they need to provide learning with digital technology and 21% disagree

56% say their school has strong leadership for the use of digital technologies and 20% disagree

52% say that digital technology is available whenever their students need it for their learning and 36% disagree

Principals:



say that their school has adequate expertise to support good quality learning with digital technology



say the costs of maintaining and replacing digital technologies is a major issue for their school



say that their school has adequate resources to support good quality learning with digital technology, and 33% disagree

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Infrastructure and support for teaching with digital technologies

We asked teachers and principals a range of questions about the infrastructure, support, and capabilities within their schools to use digital technologies for teaching, learning, and professional work. The teacher surveys also included an open question, inviting teachers to comment on any additional support they thought they needed to integrate digital technology for learning into the curriculum.

Figure 6 shows teachers' responses to the closed questions, and Figure 7 shows principals' responses. Key findings are discussed thematically below.

Internet connectivity, equipment, and access

Most teachers (82%) agreed or strongly agreed that their school's internet access is adequate and reliable. However, fewer agreed or strongly agreed that they have good technical support to deal with problems (61%) or that school equipment is adequate and reliable (60%), and just over half (52%) said that digital technology is available whenever their students need it for their learning. More than a third (35%) disagreed or strongly disagreed with this statement, with teachers from decile 5–6 schools the most likely to disagree or disagree strongly (48%), and teachers in decile 9–10 schools the least likely to disagree (29%).

Only 45% of principals agreed or strongly agreed that their school has adequate resources to support good quality learning with digital technology, and more than a third (34%) disagreed or strongly disagreed.

Staff confidence and capabilities with digital technology

Just over half the teachers (57%) agreed or strongly agreed that they have the knowledge and skills they need to provide learning with digital technology, and that their school has strong leadership for the use of digital technologies for learning (56%). Interestingly, principals seemed to be slightly more positive, with 65% agreeing or strongly agreeing that their school has adequate expertise to support good quality learning with digital technology. It is possible that principals' evaluations of the expertise within their

school is based on the expertise of the most digitally-capable staff within their school being shared, or helping to raise overall levels of expertise across the staff over time.

Supporting students with additional learning needs

Elsewhere in the survey, teachers and principals indicated that learning with digital technologies was benefiting students with additional (special) learning needs (see Chapter 3). Ninety percent of principals agreed or strongly agreed that teachers at their school are increasingly using digital technologies to support access to the curriculum for students with additional learning needs, and 84% said students with additional learning needs have access to digital technology to support their learning.

However, only 45% of teachers agreed or strongly agreed that they have the knowledge and skills they need to support learners with additional learning needs who rely on digital technologies to access the curriculum, 28% gave a neutral response, and just under a quarter (24%) disagreed or strongly disagreed.

Principals' interactions with staff and whānau

Sixty-nine percent of principals said digital technology has positively influenced the way they interact with staff, with 31% strongly agreeing. A similar percentage (71%) agreed or strongly agreed that digital technology has positively influenced the way they interact with parents and whānau, with slightly fewer indicating strong agreement (27%).

FIGURE 6 Teachers' views on the infrastructure and support for digital technology within their school (n = 771)

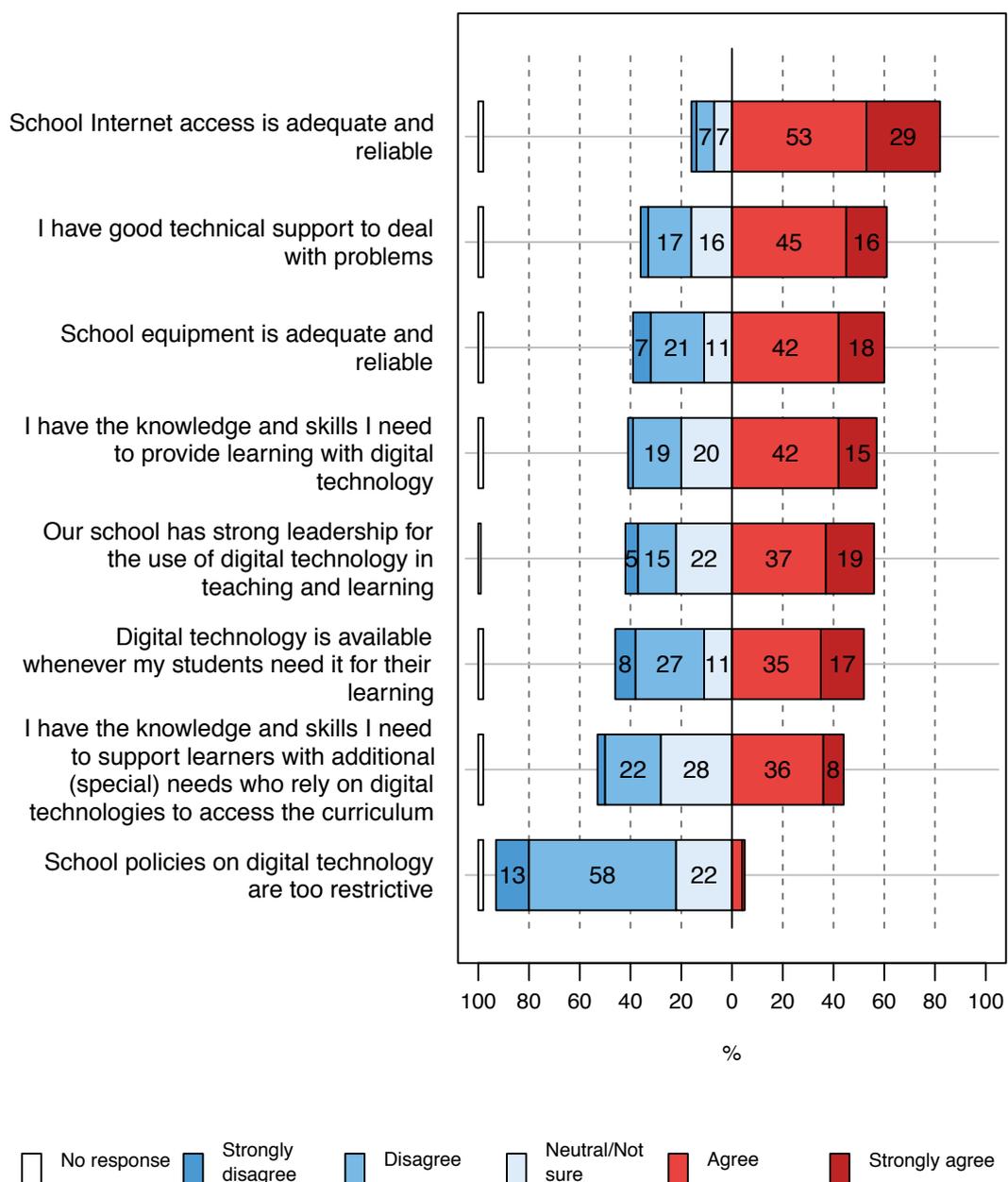
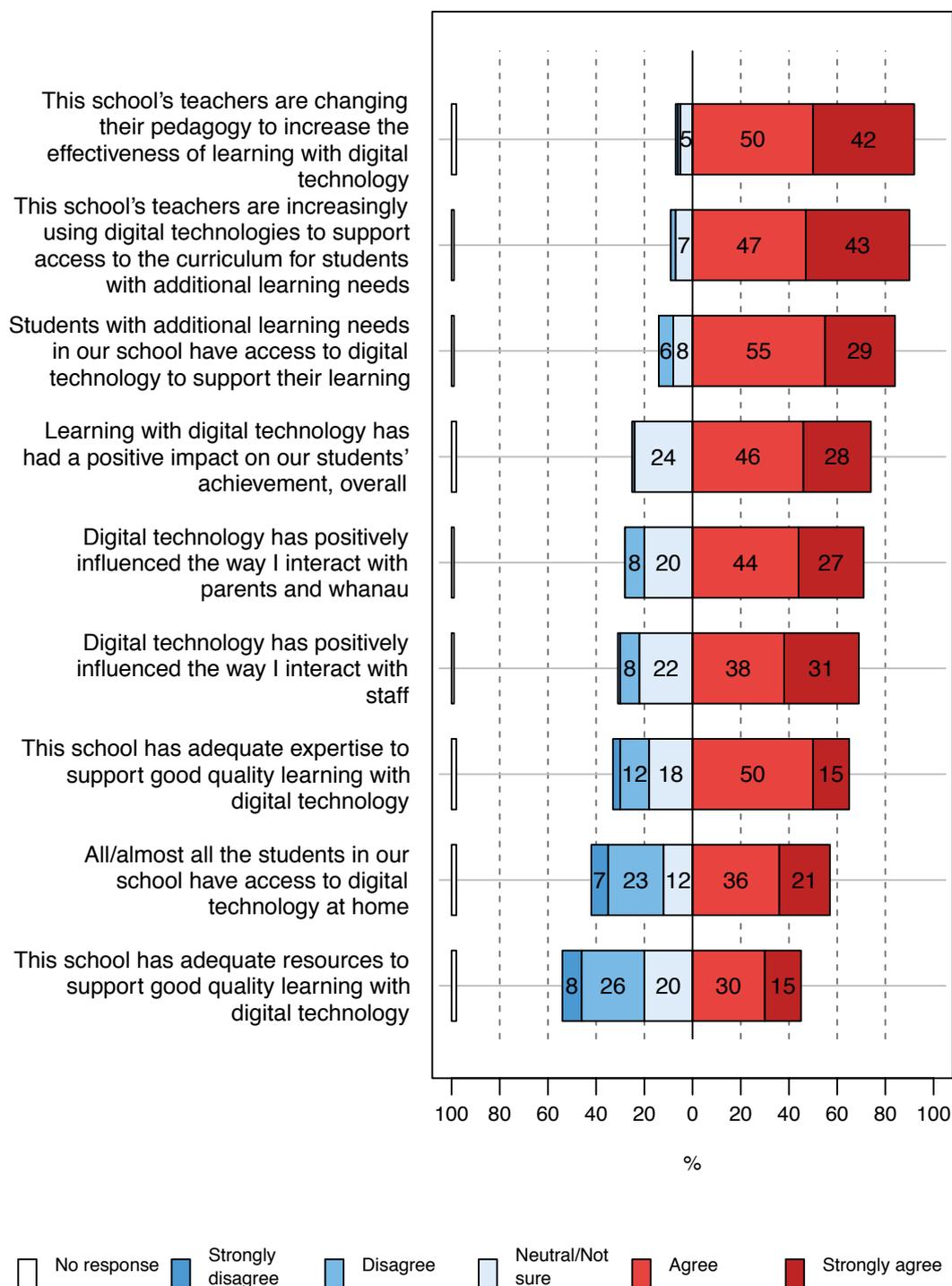


FIGURE 7 Principals' views on the infrastructure, support, and use of digital technology in their school (n = 200)



Digital technology issues in relation to other major issues for schools

Teachers and principals (as well as trustees and parents and whānau) were provided with a list of 25 issues for schools and asked to tick all those they considered to be major issues facing their school. Three items related to digital technology (shown in Table 6). The costs of maintaining and replacing digital technology was the most frequently identified major issue related to digital technology, more so than the adequacy of digital technology and internet access. Issues around inappropriate use of technology were not often identified as being major issues.

TABLE 6 Views of digital technology as a major issue for respondents' schools

Major issue	Principals (n = 200) %	Teachers (n = 771) %	Trustees (n = 176) %	Parents (n = 504) %
Costs of maintenance and replacement of digital technology	52	35	19	7
Adequacy of digital technology and internet access	20	29	11	5
Dealing with inappropriate use of technology (e.g. cellphones, social networking sites)	8	7	2	2

To put these issues in context, amongst principals, the costs of maintaining and replacing digital technologies was the second most frequently identified major issue (52%), after the general issue “too much is being asked of schools” (53%). Amongst teachers, the cost of digital technology was the third most frequent issue (35%), coming in just behind “too much is being asked of schools” (46%) and “staffing levels/class size” (37%).¹⁶

The full list of major issues, which includes various issues related to student achievement, teacher professional development, engagement with community and whānau, and other issues will be discussed in the forthcoming overview report of the 2016 national primary and intermediate schools' survey.

Bring your own device (BYOD)

Principals were asked if their school already has, or is considering, a BYOD policy. Just over half the principals said they either already do, or are considering one. Just under half said no. There were decile-related differences in their responses, with a higher proportion of decile 5–6, 7–8, 9–10 schools having a BYOD policy compared to decile 1–2. Of principals from decile 1–2 schools, 64% said their school has no BYOD policy, and 25% are considering one.

¹⁶ Generally, school trustees identified digital technology issues less often, compared with other issues such as property maintenance/development, staffing/class sizes, funding, and other governance issues. Parents/whānau rated digital technology as an issue less often than staffing levels/class size, student behaviour, and various other issues.

TABLE 7 Schools with BYOD policy, reported by principals (*n* = 200)

BYOD policy	Principals %
Have a BYOD policy	31
Considering one	20
Do not have a BYOD policy	49

Because of the way the question was asked, principals may have been answering in terms of whether or not the school had a written policy. With hindsight, we could have asked whether the school allows students to bring their own devices to school, as well as whether the school has a policy in place around this.

Further support for teachers

Just over a third of teachers wrote a comment about additional support they needed to integrate digital technology for learning into the curriculum. These comments provide further insight into the everyday challenges and issues teachers encounter with regards to using digital technologies for learning and teaching. There were two very frequent themes in the comments. The first theme referred to issues with access, suitability, and reliability of hardware and infrastructure available, often coupled with comments that schools needed more/additional funding to get sufficient digital technology and keep this up to date. The second common theme related to teachers' perceived PLD support needs.

TABLE 8 Teachers' comments about additional support needed (*n* = 265)

Support needed	Teachers who wrote a comment (<i>n</i> = 265) %
(Funding for) Sufficient, up-to-date, reliable hardware (including a device for every student) and infrastructure	36
Ongoing support from external expertise/more funded PLD/concerned about teachers' preparedness	33
Time to practise, explore possibilities, implement new ideas from PLD	13
Dedicated funded tech support and maintenance that meet the school's needs	11
Collaboration/problem solving with others—within school, or across local school cluster (some referred to the value of this; others wanted it but didn't have it yet)	9
Challenging to keep up with the rate of change	7
Teacher has had (or is having) appropriate support or PLD/No further external support currently needed	5
Teacher wants more guidance, including which apps / websites to use for which purposes; which hardware is best, etc.	5
Particular challenges/priorities related to teaching young students (NE-Y3)	5
Support for families and whānau to buy devices for BYOD and for using digital tech at home	5

Access, suitability, and reliability of infrastructure, and associated costs

Not enough devices

Some teachers said there simply weren't enough devices available for their students. Definitions of "not enough" ranged from "too few" devices to meet their students' needs, through to some teachers not having *any* devices available for students' use.

Not enough iPads to be shared around. I have 2 iPads for 24 children.

Our students have access to NO computers/tablets of any description. The only 'technology' available to them are cameras and a TV screen which can connect to teacher's laptop. Each teacher has a laptop but students are not meant to use them.

We need more devices—computers, laptops, tablets in our class. Just having two makes it difficult.

Some teachers said that having to share a pool of devices across the school was a limiting factor.

I would love to have more computers in our school so that if we needed them for learning they were available. I would use the computers A LOT more if I could rely on having them available.

Limited number of devices restricts us. Growing school—devices shared over more classes.

How much is "enough"?

Teachers expressed different views about how much would be "enough" in terms of students' access to digital technology devices.

[I would like] more computers i.e. 1 between 2 per class.

We could always use more devices—1:2 isn't quite enough.

To completely integrate, needs to be 1:1.

Some simply said it was a case of having "enough" to be functionally useful in the classroom.

[By] access I do not mean I need 1:1 but the ability to integrate it in all areas and groups, rather than booking pods when available.

I just need more easily accessible/readily available devices so I can easily integrate use into my programme. At the moment my 1:7 ratio isn't ideal.

Some teachers commented about the *types* of devices available. They suggested they would be able to make better use of technology if all students had the same or similar kinds of devices.

In order to teach well using ICT at Year 3 and 4 I believe we need devices which are the same rather than a mixture of iPad and computer.

We do not have a device per student despite attempting BYOD... We also have a range of devices—laptops, google docs, chrome books, macs, iPads—which do not all have the same programmes.

Equity and funding

It was common for teachers to say that schools needed "more funding" to equip them adequately for using digital technology for learning. Some made specific comments about the importance of equitable funding for all schools, and some said the Government should fund schools' technology needs rather than device costs being passed on to parents.

Schools need more funding to have enough ICT available for all students—especially those who cannot afford it.

[We need] more support for low decile schools to have digital classrooms. BYOD is not an option.

I feel there is a need for funding to schools to help in having equitable resources for technology.

An equal amount of funding for every school in NZ to purchase and keep updated technology equipment needs to be looked at.

The cost of apps and resources, and keeping technology up to date

Some teachers talked about the costs associated with keeping pace with changing technologies, including the need to have “up-to-date” technology, both hardware and software.

A number of Apps for special needs children are expensive ... times need to change and we should be given additional funds to purchase them.

Need more money to purchase good quality resources for the kids to use.

Some teachers suggested that dedicated funding for in-school or between-school technology support might reduce delays or frustrating issues that limited integration of technology for learning. Some said technical support within their school was inadequate or not available quickly enough for their needs.

Often digital problems are solved by other teachers and/or students quickly/timely rather than waiting to go through official channels—we have to solve them ourselves, as the designated leader is overworked, and under-resourced.

Financial constraints mean that the technical support is not regular and IT problems wait for help or to be fixed for a term or more.

We are very isolated so technology is hard to get. There are limited technicians (one electrician) with knowledge on our interactive boards etc...

When systems crash we can be ‘out’ for quite some time. Frustrating.

We need to update our class computers and other forms of digital technology as well. If computers are not reliable then staff are less inclined to use them, due to frustration. I use my own personal iPad because I got tired of the tablets the school had not working well.

Professional learning and development needs

Aside from hardware and infrastructure issues, the second major area of comment related to teachers’ learning and professional development needs. Many comments simply said teachers needed “more” PLD.

Any support would be great, at the moment in our school we have been given nothing.

Teachers have not had any PD to use google docs or find short cuts on the drive and spend hours trying to figure things out.

Some teachers said they simply didn’t know what support they needed yet, due to current inadequacy of access to technology.

Don’t know at this point since we (junior teachers) do not [have] adequate technology at [the] moment. It is not until we have it that we will know what support we will need.

Some teachers discussed the need for support that was tailored to their needs, or “just in time”, or giving teachers more time to experiment and explore things they had already begun to learn.

It’s usually too quick [PLD], only done by experimenting + verbally which does not suit my learning style. Always find I am left hanging while someone in any workshop getting all the attention + help or/and technology lets us down.

I would prefer in-class mentoring over workshops and being told to try it out myself.

Release time for teachers to work in small groups for [professional learning] ... or to observe the use of digital technology would be helpful. Funding seems to be tied specifically to platforms, e.g., Microsoft/Google.

[I'd like] a support person to discuss next steps in e-learning, apps to use [that] I may not know or [have] thought of. Group discussions with support person to continue own development for future learning & skills needed.

One day courses are useful—but sometimes, presenters have their own 'barrow to push' e.g., iPad focus, when in reality it is not a case of one tool fits all. Hard to know exactly what is most beneficial to put time, money, and energy into!

Others wanted very specific guidance on how to link technology affordances to their goals for teaching and learning, or to meet their particular students' needs.

More PD on what works already for specific needs/goals.

I think I need some help using it to differentiate learning.

Additional support and planning around digital citizenship and cyber safety for teachers, students and parents.

Which apps should I be using?

Some teachers commented that advice and support to find appropriate software would be useful.

I have a special needs boy and I feel there may be more programs available to support his learning.

I don't know what I don't know. I always appreciate guidance and support in finding/identifying and using programs/apps/sites to support learning in new ways.

I would like more PD on the sea of Apps and programs so I can make well considered choices for my year 3 class.

A few teachers mentioned wanting PLD that could at least help them catch up to students, or get ahead of students and what they might need.

Some PD on making colourful/informative/interesting displays would be useful. The kids are better than me at this.

Knowing the programs before the students.

We are just scratching the surface of what we are able to do with technology now, new things are being introduced as reality and readily available on a regular basis. If this is the direction teaching and learning are taking then we need a massive PLD to help teachers and the teachers who are leading.

A small percentage of comments (about 5%) expressed teachers' happiness with their current levels of in-school support and PLD.

Our school has had whole staff PD throughout the year in Google Docs & iPad apps (teachers released from classes to learn). It's been AWESOME.

Have had considerable PD this year in apps and Google (docs) which has been very beneficial.

We have great support with ICT—it is time consuming to set up, but once up and running—it's successful.

Summary

The findings in this chapter identify some of the infrastructure and support challenges teachers and principals encounter regarding the use of digital technologies within their schools. While internet connectivity appears to be good in most schools, and few teachers think their school's policies are too restrictive, some teachers and principals identified challenges accessing hardware or software that is suitable to their needs, at the times at which they or their students need it. The costs associated with keeping technologies up to date were a major concern for more than half of principals. Some principals and teachers raised questions about equity of access for schools or communities who cannot afford these costs.

While teachers and principals agreed that digital technologies can support students with special learning needs, some teachers disagreed that they have the knowledge and skills to support students who may depend on these technologies to access the curriculum.

While more than half the teachers indicated that they have the knowledge and skills they need to provide learning with digital technologies, and that their school has strong leadership for the use of digital technologies in teaching and learning, 20% of teachers disagreed with each of these statements, and some teachers identified specific professional learning and development needs they felt were not currently being met.