4.

Teaching and learning in secondary schools

We begin this section with some of the strategies secondary schools have in place to support students during the transition to secondary school. The focus then shifts to all students, and learning experiences that incorporate the key competencies—how important do teachers think these are, and how frequently do teachers provide these kinds of learning experiences?

Learning with digital technology was a focus for the first time in the 2015 survey, and some of these questions were repeated in 2018 to identify change. We also asked teachers for their views about the effects of using digital technology for learning.

Supporting students during the transition to secondary school

Three-quarters of principals get good information about new students' academic strengths and needs

Most of the principals (89%) indicate they pay close attention to the academic progress of their Years 9 and 10 students (see Figure 19). Slightly fewer (78%) say they get good information about students' academic strengths and needs when they enter their school. These response patterns were much the same in 2015.

There was one change from 2015: in 2018, fewer principals indicate NCEA plays an increasing part in their Years 9 and 10 curriculum (29%, a considerable decrease from 55% in 2015). This might suggest that the level of NCEA inclusion in the early secondary years is settling down somewhat and is less likely to still be "increasing".

Around 40% of the principals indicate most of their students gain some NCEA credits in Year 10, and that Vocational Pathways are part of their Years 9 and 10 curriculum.
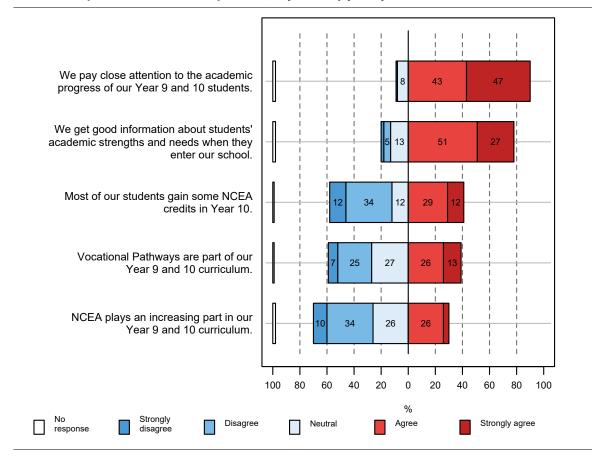
FIGURE 19 **Aspects of Years 9 and 10 provision, reported by principals (*n* = 167)**

A higher proportion of the principals of decile 9–10 schools say most of their students gain some NCEA credits in Year 10 (63%, compared with 30% for decile 7–8 schools, 43% for decile 5–6 schools, and 38% for decile 1–4 schools).

Key competency learning experiences for students

Key competencies are the capabilities people have, and need to develop, to live and learn, today and in the future. *The New Zealand Curriculum*[21] identifies five key competencies that schools should deliberately cultivate in their students:
  · Thinking
  · Relating to others
  · Using language, symbols, and texts
  · Managing self
  · Participating and contributing.

The provision of opportunities for all students to develop these key competencies has been of ongoing interest in the national survey.

---

21 See: http://nzcurriculum.tki.org.nz/The-New-Zealand-Curriculum

Teachers value the key competencies and give students opportunities to develop them

We asked teachers how important they thought learning experiences focused on students developing the key competencies were, and how often their classes have these learning experiences. Figure 20 shows that, generally, teachers thought these experiences are important, with half or more reporting that most of these occurred quite often or most of the time in their classes.

As in 2015, the learning experience that received the lowest ratings for both importance and frequency in 2018 was "Work together on a project/activity that will make a difference to their class/local environment or community".

The three learning experiences in Figure 20 with the biggest differences between teachers' importance and frequency ratings[22] (each exceeding 40 percentage points) are:
- Work together on a project/activity to make a difference to their class/school/local environment or community (difference of 46 percentage points)
- Make explicit connections to learning from other subjects/learning areas (difference of 44 percentage points)
- Investigate their own questions (difference of 41 percentage points).

Forty-seven percent of teachers think it is very important for their students to hear about how they made their assessment decisions, and 36% do this most of the time for their classes. These have both increased since 2015, when they were 38% and 26%, respectively.

---

22 This is based on a comparison of the proportions responding "Very important" and "Important", and those responding "Often" and "Most of the time".
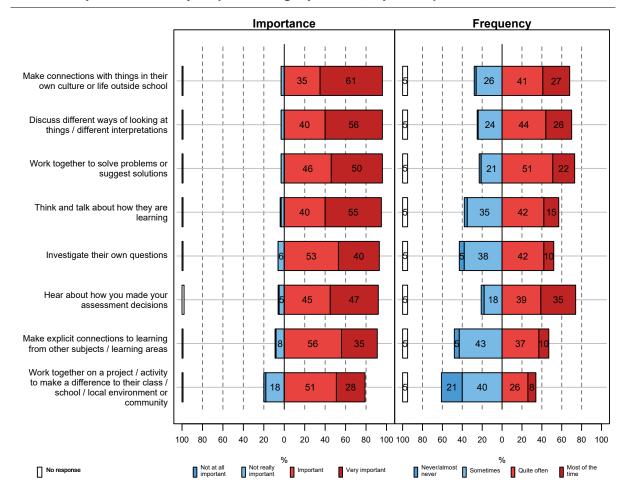
FIGURE 20 **Importance and frequency of learning experiences, reported by teachers (*n* = 705)**

School decile-related differences are evident in how important teachers think some of these learning experiences are. Higher proportions of teachers in decile 1–2 schools rated as "very important", their students having learning experiences that provided opportunities to:

- think and talk about how they are learning (70%, compared with 49% to 59% for schools in the decile 3–10 range)
- make connections with things in their own culture or life outside school (70%, compared with 62% for decile 3–8 schools, and 50% for decile 9–10 schools).

When it came to how frequently teachers' classes do these things, there was only one school decile-related difference. Teachers in decile 1–4 schools were less likely to indicate their students "quite often" or "most of the time" discuss different ways of looking at things or different interpretations (63%, compared with 74% for decile 5–10 schools).

Learning experiences differ between subjects

Some subject-related differences are evident in the importance teachers attributed to some of these experiences, and the frequency with which teachers say students do some of them.[23] Teachers of

---

23 For analysis and reporting purposes, teachers' subject areas were combined into the same groupings used for the 2015 survey: Mathematics and Science (33% of teachers responding); English and Languages (21%); Social Sciences, the Arts, and Commerce (19%); Technology, Health and PE, Transition, Careers, and Special Education (shortened to Technology, Health and PE, 24%); and other areas (3%).

Mathematics and Science were the least likely group to say their students sometimes or often have learning experiences in which students:

- work together on a project or activity to make a difference to their class, school, local environment, or community (26%, compared with 32% for English and Languages; 35% for Social Sciences, the Arts, and Commerce; and 44% for Technology, Health and PE, Transition, Careers, and Special Education). Teachers of Mathematics and Science were only marginally less likely than teachers of English and Languages and Social Sciences, the Arts, and Commerce to rate this "very important" (25%, compared with 26%–27% for the other two groups). For teachers of Technology, Health and PE, the figure was 36%.
- investigate their own questions (45%, compared with 49% for English and Languages; and 60% for the two remaining subject groups). Thirty-four percent of Mathematics and Science teachers think this learning experience is very important for their students (closely followed by 35% of English and Languages teachers; 44% for Technology, Health and PE; and 53% for Social Sciences, the Arts, and Commerce).
- make connections with things in their own culture or life outside school (55%, compared with 67% for Technology, Health and PE; 74% for Social Sciences, the Arts, and Commerce; and 84% for English and Languages). Just over half of Mathematics and Science teachers rate this "very important" (52%, compared with 57% for Technology, Health and PE; 68% for Social Sciences, the Arts, and Commerce; and 74% for English and Languages).
- discuss different ways of looking at things or different interpretations (62%, compared with 67% for Technology, Health and PE.; 76% for English and Languages; and 81% for Social Sciences, the Arts, and Commerce).

Collectively, these differences tend to support a view of Mathematics and Science (somewhat more than other subjects) as subjects in which developing students' key competencies is not a high priority.

Metatalk opportunities contribute to the development of key competencies

In an analysis of teachers' responses to the 2012 secondary survey, Hipkins[24] identified a particular set of these items about learning experiences that comprised a key factor she referred to as 'metatalk'—"talk a teacher uses in order to direct students' attention to specific aspects of the learning action as it is unfolding, and as the teacher wishes it to proceed" (p. viii). We look at teachers' responses to some of these metatalk items in 2018 compared with the previous two surveys to see how work with the key competencies is progressing in secondary schools.

Although more teachers rated metatalk opportunities as very important, not all these opportunities were more frequent

The five items in Table 3 represent metatalk opportunities for students which contribute to development of the key competencies. The proportions of teachers who viewed these opportunities as "very important" (and presumably hoped to include them in their teaching) increased from 2015 to 2018. The ranking of these items has changed very little over the three survey rounds.

24 Hipkins, R. (2015). *Learning to learn in secondary classrooms.* Wellington: NZCER Available at: https://www.nzcer.org.nz/research/national-survey

TABLE 3   **Metatalk opportunities teachers rated as "very important"; 2012, 2015, and 2018**

Metatalk opportunities	2012 (n = 1,266) %	2015 (n = 1,777) %	2018 (n = 705) %
Make connections with things in their own culture or life outside school	56	50	61
Discuss different ways of looking at things/different interpretations	47	52	56
Think and talk about how they are learning	48	45	55
Hear about how you made your assessment decisions	35	38	47
Make explicit connections to learning from other subjects/learning areas	32	30	35

In 2018, more teachers were giving students opportunities "most of the time" to hear about how they made assessment decisions, and to make connections with things in their own culture or life outside school (see Table 4). However, the frequency with which teachers provided the three remaining metatalk opportunities was little changed since 2012.

TABLE 4   **Metatalk opportunities teachers reported their classes doing "most of the time"; 2012, 2015, and 2018**

Metatalk opportunities	2012 (n = 1,266) %	2015 (n = 1,777) %	2018 (n = 705) %
Hear about how you made your assessment decisions	27	26	36
Make connections with things in their own culture or life outside school	23	20	27
Discuss different ways of looking at things/different interpretations	28	27	26
Think and talk about how they are learning	18	18	16
Make explicit connections to learning from other subjects/learning areas	13	12	10

There is little change in experiences that help students take responsibility for their learning

Learning to learn is a foundation principle in *NZC*, and students taking responsibility for their own learning is integral to the key competencies. This can be supported by providing students with opportunities to be involved in assessment processes and goal setting.
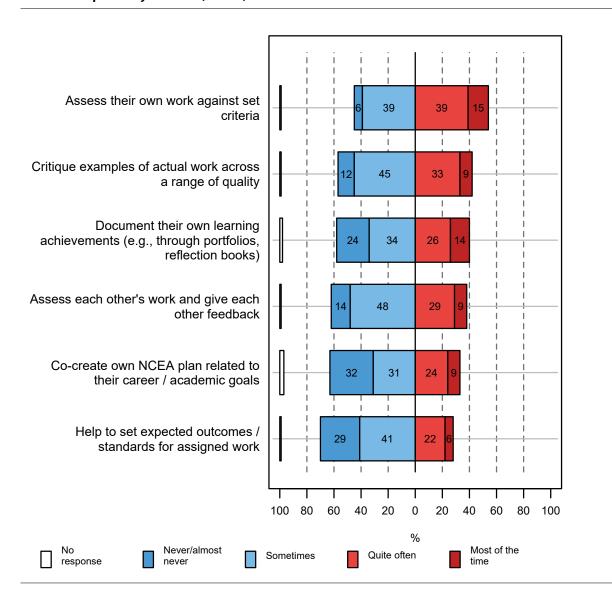
Students monitoring their own progress towards a qualification contributes to learning to learn. Almost two-thirds (64%) of principals responding to the survey indicate that students being supported to track their progress towards a qualification is an approach that is well embedded at their school, and an additional 34% of principals say this is partially embedded. This was much the same in 2015.

Figure 21 shows that most teachers report their students having various experiences to help them learn to take responsibility for their learning, "sometimes" or more frequently. The most frequent experience—students assessing their own work against set criteria—is reported to be happening quite often or most of the time by 54% of teachers, similar to 2015 and 2012.

Close to one-third of teachers indicate their students never or almost never co-create their own NCEA plan related to their career or academic goals. Another third did this quite often or most of the time, showing a gradual increase from 22% in 2012, to 28% in 2015, to 32% in 2018.

Whereas in 2015 there had been evidence of teachers making small shifts towards greater inclusion of students in decisions about their learning, little further change was evident in 2018.

FIGURE 21 **Frequency of experiences that help students learn to take responsibility for their learning, reported by teachers (*n* = 705)**

Students in decile 1–2 schools had less frequent opportunities to assess each other's work and give each other feedback (20% of teachers say they do this quite often or most of the time, increasing to 47% of teachers at decile 9–10 schools).[25]

Close to one-third of teachers of Mathematics and Science, and Technology, Health and PE, say students in their classes quite often or most of the time:
- assess each other's work and give feedback (compared with 42% for English and Languages, and 47% for Social Sciences, the Arts, and Commerce)
- critique examples of actual work across a range of quality (compared with 52% for Social Sciences, the Arts, and Commerce, and 63% for English and Languages).

Over half of teachers of Technology, Health and PE say their students quite often or most of the time document their own learning achievements (57%, compared with 44% for Social Sciences, the Arts, and Commerce; 37% for English and Languages, and 28% for Mathematics and Science).

As we see in the next section, some subject-related differences are also evident in teachers' experiences of and views about digital technology.

Teaching and learning with digital technology

Since 2015, the technology learning areas in *NZC* and *Hangarau Wāhanga Ako* in *Te Marautanga o Aotearoa* have been revised to strengthen digital technologies. Two new technological areas have been introduced: Computational thinking for digital technologies and Designing and developing digital outcomes. Since mid-2018, the Government has invested substantially in supporting teachers' understanding of the new Digital Technologies curriculum content, and how they can integrate this into teaching and learning programmes by 2020.

How have students' opportunities to learn using digital technology changed since 2015? Are more teachers feeling well equipped to incorporate digital technology in their teaching? Do teachers think learning with digital technology supports deeper learning for students? And do teachers have what they need to implement learning with digital technology?

Around half of teachers say their school's digital technology is adequate and reliable

Some of the practical support teachers have for implementing learning with digital technology is shown in Figure 22. Around half the teachers responding to the survey indicated their school's equipment is adequate and reliable, or available whenever their students need it for their learning. Clearly, a lack of these supports is still making implementation problematic for some.

In 2018, more teachers have good technical support to deal with problems (68%, up from 57% in 2015). A smaller increase is evident in teachers agreeing their school's equipment is adequate and reliable (54%, compared with 46% in 2015).[26]

---

25 Perhaps contributing to this finding, there was a slightly higher proportion of responding teachers of English and Languages at decile 1–2 schools (30%, compared with 15%–24% for other decile bands). Slightly smaller proportions of teachers at decile 1–2 schools taught Social Sciences and the Arts, or Technology, Health and PE, Transition, Careers, and Special Education than in the other decile bands.
26 The third item in Figure 22, about the availability of digital technology, was new to the survey in 2018.
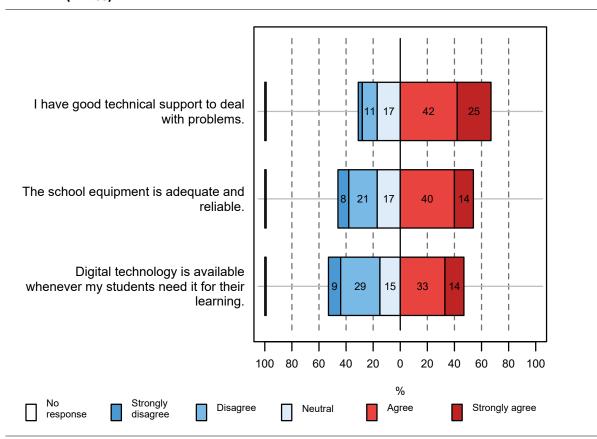
FIGURE 22 **Practical support for implementing learning with digital technology, reported by teachers (*n* = 705)**

There were school decile-related differences for the practical supports included in Figure 22, although response patterns varied slightly for each one. The widest variation was in teachers who say digital technology is available whenever their students need it for their learning (32% of teachers at decile 1–2 schools, around 36% for decile 3–6, 57% for decile 7–8, and 70% for decile 9–10). Forty-two percent of teachers at decile 1–2 and decile 5–6 schools have school equipment that is adequate and reliable (compared with 51% at decile 3–4 schools, and around 67% at decile 7–10 schools). It was teachers at decile 5–6 schools who were least likely to say they have good technical support to deal with problems (54%, compared with 62% of teachers at decile 1–2 schools, 70% at decile 3–4 schools, 85% at decile 7–8 schools, and 77% at decile 9–10 schools).

The cost of maintaining and replacing digital technology is a major issue for more than half of principals

Maintaining a school's digital technology is an ongoing consideration for schools, and for some schools is a particular challenge. The cost of maintaining and replacing digital technology was identified by 55% of principals and 28% of trustees as one of the major issues facing their school in 2018.

Another major issue related to digital technology was dealing with inappropriate use of technology, such as mobile phones and social networking sites. This was identified as a major issue by 48% of principals (compared with 38% in 2015) and 17% of trustees (similar to 2015).

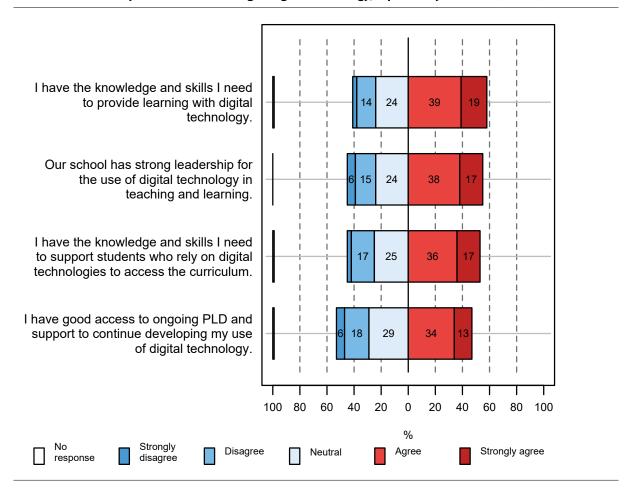Neither of these issues varied significantly with school decile.

Over half (58%) of principals indicate their school's use of digital technology for learning depends on parents providing devices.[27] This was more likely to be the case at decile 9–10 schools (80% of these schools, compared with 75% for decile 7–8 schools, 60% for decile 5–6 schools, 32% for decile 3–4 schools, and 37% for decile 1–2 schools).

Fifty-nine percent of teachers have the knowledge and skills they need to provide learning with digital technology

Figure 23 shows teachers' experiences of leadership, teacher knowledge, and ongoing PLD related to learning with digital technology. The proportion of teachers who reported they have the knowledge and skills they need to provide learning with digital technology is up somewhat from 52% in 2015 to 59% in 2018. However, this leaves 40% who do not agree that this describes them.

Just under half indicated they have good access to ongoing PLD and support to continue developing their use of digital technology.

FIGURE 23 **Leadership and teacher learning in digital technology, reported by teachers (*n* = 705)**

Teachers at decile 9–10 schools were more likely to say they have the knowledge and skills they need to provide learning with digital technology (70%, decreasing to 51% of teachers at decile 1–2 schools). Almost as many (68%) teachers at decile 7–10 schools say their school has strong leadership for the use of digital technology in teaching and learning (compared with 50% of teachers at decile 3–6 schools, and 32% at decile 1–2 schools).

Looking at their professional learning over the past 3 years, 58% of the teachers say their school has enabled them to develop the knowledge and skills they need to provide learning with new or emerging digital technologies. This comprises 46% of the teachers at decile 1–2 schools, increasing to 65% of those at decile 9–10 schools.

More than two-thirds of teachers collaborate online with other teachers

A potential avenue for teachers' professional learning is online courses. Figure 24 shows that almost half of teachers sometimes or often take part in online learning opportunities. More teachers go online to collaborate with teachers in their own school (89%) or download resources such as lesson plans and teaching materials (88%).

In 2018, there were increased proportions of teachers reporting often or sometimes going online to collaborate with teachers beyond their school (67%, compared with 60% in 2015) and take part in online learning opportunities (48%, compared with 39% in 2015). Otherwise, the proportions were similar to 2015.

There were no differences related to school decile in the reported frequency of teachers' online activities.
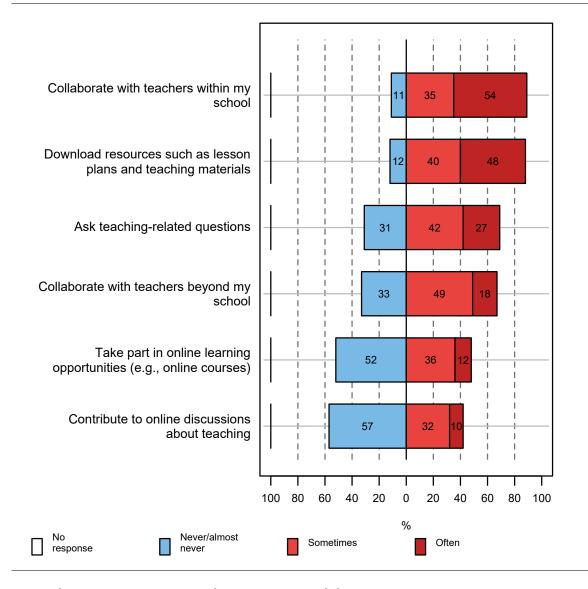
FIGURE 24 **Frequency of teachers' online activities, reported by teachers (*n* = 705)**

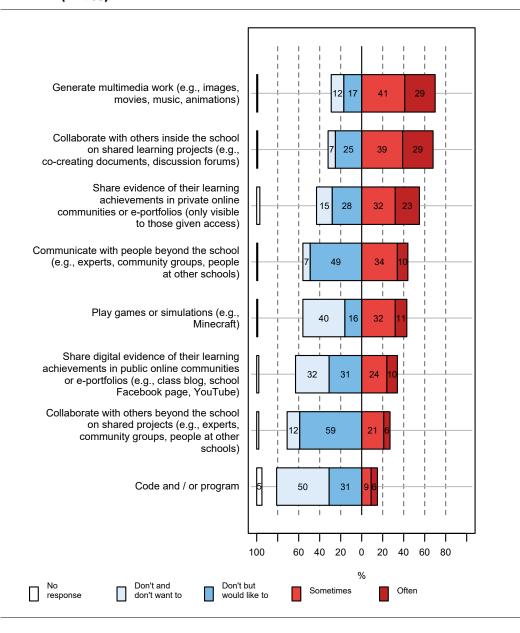**Two-thirds of teachers say their students use digital technology to collaborate within the school**

In 2018, there are three learning experiences using digital technology that more than half of teachers provided sometimes or often (see Figure 25). These experiences are focused on learning *inside* the school. Seventy percent of the teachers indicate their students use digital technology to generate multimedia work. Slightly fewer (68%) report their students using digital technology to collaborate with others inside the school. Digital technology is being used by 55% of teachers for their students to share evidence of their learning achievements in private online communities or e-portfolios, which are likely to be restricted to teachers and parents.

The learning experiences that the greatest proportions of teachers indicate don't happen and they would like to include, are both associated to connecting with people *outside* their own school: collaborating with others beyond the school on shared projects (59% of teachers don't but would like to) and communicating with people beyond the school (48%).

Generating multimedia work has increased in 2018 (70%, up from 59% in 2015). The other increase was in students having learning experiences that involved playing games or simulations (43%, compared with 30% in 2015).

A small proportion of teachers said their students' learning experiences include coding or programming (14%, up slightly from 9% in 2015). Although half of teachers said they *would not* want to include this, another 31% said they *would* like to.

FIGURE 25 **Frequency of students' learning experiences using digital technology, reported by teachers (*n* = 705)**

Looking at differences related to school decile, 75% of teachers at decile 9–10 and 5–6 schools provide students with learning experiences that involve generating multimedia work using digital technology, compared with 67% of teachers at decile 7–8 and 3–4 schools, and 59% at decile 1–2 schools. A further 33% of teachers at decile 1–2 schools don't do this but would like to.

When it comes to coding and/or programming, similar proportions of teachers across school deciles do this with their students. The difference lies in those who don't do this but would like to: 42% of teachers at decile 1–2 schools, 36% at decile 3–4 schools, and 27% of those at decile 5–10 schools.

There are several differences here related to teachers' subject areas. As we might expect, a higher proportion of teachers in the subjects group that includes Technology (as well as Health and PE, Transition, Careers, and Special Education) indicate their students use digital technology sometimes or often for coding or programming (23%, compared with 14% for Mathematics and Science, 10% for English and Languages, and 8% for Social Sciences, the Arts, and Commerce.)

Teachers of Mathematics and Science:
  • were more likely to say their students sometimes or often use digital technology to play games or simulations (52% of this group, compared with 37% of teachers in the other three subject groups)
  • were less likely to say their students sometimes or often generate multimedia work (59%, compared with 74%–80% for the other groups).

Teachers of Mathematics and Science and those who teach English and Languages were the least likely to say their students sometimes or often use digital technology to:
  • collaborate with others beyond the school on shared projects (20% and 24%, respectively, compared with 32% of teachers of the other two subject groups)
  • communicate with people beyond the school (35%, compared with 51% of teachers of Technology, Health and PE, and 51% of teachers of Social Sciences, the Arts, and Commerce).

Teachers have mixed views about the effects of using digital technology for learning

Figure 26 shows teachers' views about some of the effects on teaching and learning of using digital technology. Most teachers agree the use of digital technology has led them to experiment with new approaches to teaching and learning and that it supports students with learning support needs.

However, 41% do not agree that using digital technology helps students go deeper into their learning, including 25% who responded "neutral".
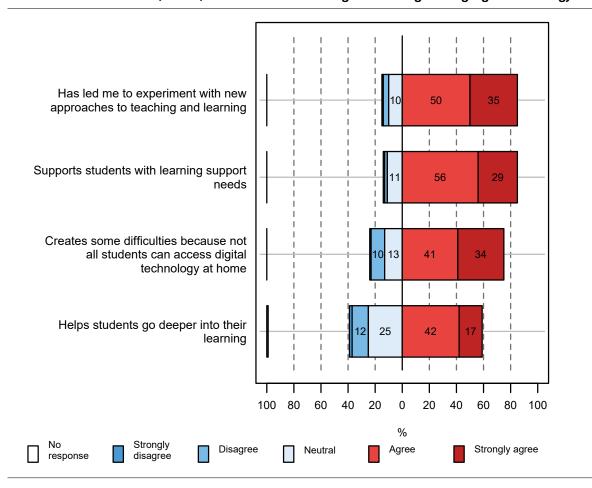
FIGURE 26 **Teachers' views (*n* = 705) of the effects on teaching and learning of using digital technology**

More than three-quarters of teachers at decile 1–8 schools say students' access to digital technology at home creates difficulties

There was an important difference related to school decile here. Just over half (53%) of teachers at decile 9–10 schools say that using digital technology for learning creates some difficulties because not all students can access digital technology at home, compared with more than three-quarters of teachers at schools of other deciles (77% of those at decile 7–8 and 3–4 schools and 86% of those at decile 5–6 and 1–2 schools). For at least three-quarters of teachers at decile 1–8 schools, students' access to digital technology at home is creating difficulties.

Some teachers are still unconvinced that digital technology helps student learning

Teachers were also asked to comment about how their students are using digital technology for learning (see Table 5) and 48% (*n* = 335) wrote comments. The theme that emerged most often was concern that digital technology is not benefiting students' learning. This included comments about: digital technology being detrimental to students' reading and writing skills and their critical thinking; students being distracted from their learning by social media and games; and a lack of research that convincingly shows that using digital technology improves outcomes for students. While 16% of teachers voiced these concerns, 4% wrote positive comments about the benefits for students' learning of using digital technology.

TABLE 5   **Themes emerging from teachers' comments about how their students are using digital technology for learning**

Themes	Teachers (*n* = 705) %
Concern that digital technology is not benefiting students' learning	15
Access issues (e.g., BYOD unreliable, insufficient laptops available, equity of access)	9
Names a specific use of digital technology (e.g., presenting work as vlog; using Te Kura online resources)	8
Described digital technology as a 'tool' (e.g., its value is dependent on how it's used; it needs to be balanced with other modes)	8
Positive comment about current or potential uses of digital technology	6
Limited or no use of digital technology in their classes	4
Teachers need more/better PLD, or PLD related specifically to their learning area	4
Digital technology is benefiting students (e.g., developing their research skills; supporting student agency)	4

I have moved away from paper as far as possible for most of the standards I teach and my students are digitally assessed for most of their standards. This allows each student to take ownership of their work as they need to verbally analyse and evaluate their work. It also means they have a clearer idea of what they are doing.

In some cases, my students' learning has regressed because of digital technologies. They copy and paste without paying any attention to the validity of the source or the richness of the content. Many are distracted by apps, social media, or games on their devices. A simple task like making a poster may take a lot less time constructing digitally; however, the students who take time to source the cardboard, think about the layout and design, the relevance of the pictures or annotations often do better than those using digital technology to 'quickly' get the work done. Similarly, students who carefully plan with pen and paper, 95% of the time, produce better paragraphs/essays than those who do it all on computers.

There are definite positives and negatives. I have seen an increase in engagement, depth of research, variety of presentation methods. Conversely, I have also seen a reliance on devices as the only means of searching for info etc. Also, the cunningness of students who are watching other stuff when they should be working. They are crafty and clever!

Most parents say their child can use the internet at home for school work

Although 90% of the parents[28] responding indicate their child has access to the internet *at home* for their school work, 8% say their child's access is limited, and a small number (1%) have no access.

Parents whose child is attending a decile 1–2 school were the most likely to say their child does not have access to the internet at home for their school work (7% of these parents, decreasing to no parents with a child at a school in the decile 7–10 range). Seventy-four percent of parents whose child attends a decile 1–2 school say their child has full access to the internet at home, compared with 91% of parents with children at decile 3–10 schools.

Most parents (90%) think it is of high or medium importance for their child to use digital technology as part of their learning *at school*. For 9% of parents, this was of low importance. In 2015, parents' responses to this item were much the same.

---

28 Note that the responding parents are a more highly qualified group than the population as a whole.

In response to an open question about their child's secondary schooling, a handful of parents (*n* = 5) raised issues related to the use of digital technology, including social media.

> I feel the school could educate children about computers—time, breaks, exercises. To balance devices with other activities and look after their eyesight and health.

> I struggle with the girls using their own devices in the classroom as they are often on social media. [The school] should have a much better array of devices for the girls to use and software to ban Facebook/Instagram and Snapchat at school. My daughter was bullied through social media by girls in the class/school during class time!

> There is no alternative to the Chromebook program. Google should not be trusted with children's private data. But Chromebooks are obligatory for all students.

Summary and discussion

In 2015, there was evidence of teachers making small shifts towards greater inclusion of students in decisions about their learning, but little further change is evident in 2018. The only noteworthy change in this area was an increase in teachers thinking it is very important for students to hear how they make assessment decisions, plus more teachers doing this most of the time for their classes. A gradual increase over time is evident in students co-creating their own NCEA plan related to their goals.

There are a number of subject-related differences in the frequency with which teachers provide learning experiences that incorporate key competency development. Collectively, these differences support a view of Mathematics and Science as subjects in which developing students' key competencies is not a high priority.

Teachers' interest in working with the key competencies is not always matched by what is available to them: as we will see later in the report, less than a quarter of principals indicate that being part of a Kāhui Ako has led to their school doing some interesting work on developing students' key competencies.

In relation to learning with digital technology, teachers report ongoing implementation challenges relating to accessibility of equipment and reliability, although more have good technical support to deal with problems than in 2015. Many teachers also say they need more PLD to support them to keep developing their use of digital technology. Teachers see the value of using digital technology to support the learning of students with learning support needs, but some teachers remain sceptical about digital technology's benefits for all students' learning.

Compared with 2015, there are increases in some uses of digital technology for students' learning, more specifically, generating multimedia work and playing games or simulations, and to a lesser extent, coding and programming. Many teachers say their students use digital technology for collaborating with others *inside* the school, and around half would like to have their students use it for collaborating and communicating with people *outside* the school.

Some school decile-related differences that were identified in the 2015 survey remain. Teachers at decile 1–2 schools are less likely to be as well equipped to implement learning with digital technology, both in terms of their professional learning and the availability of digital technology when their students need it. Neither are teachers at these schools as likely to have the practical support they need for implementing learning with digital technology.

In 2018, teachers at decile 1–2 and 5–6 schools are the most likely to encounter difficulties with using digital technology because not all their students can access this at home. Teachers at these schools are also the least likely to report having school equipment that is adequate and reliable.