5.

Arrangements for curriculum provision

In 2018, questions about arrangements for timetabling and the integration of learning areas were included in the survey for the first time, to shed light on how schools organise their curriculum for students. Little is known about nationwide patterns for these practices in schools, and these new questions were aimed at gaining an initial picture for further research.[29]

A major review of NCEA was being conducted in 2018,[30] raising its profile and provoking discussion. Because the review was underway at the time of the survey, the ongoing focus on NCEA in previous NZCER national surveys of secondary schools was significantly reduced in the 2018 survey.

School timetabling

We sought to learn more about who has main responsibility for the development of secondary school timetables, as well as who else contributes, the nature of current timetables, and teachers' preferences for timetabling arrangements in their school.

Secondary schools are increasingly being expected to develop timetables that enable a diversity of learning pathways, making this a complex logistical task. In 2018, 47% of the principals and 36% of the trustees identified timetabling to support a growing range of student learning opportunities as a major issue facing their school.

In response to a question about their timetabling experiences, 41% of principals wrote comments, some of which underline the complexity of this task. Almost half of their comments (from 20% of all principals) indicate some frustration with developing timetables that meet the needs of all, and that some principals want help with this. The following comments are illustrative of the range of factors principals and their timetable developers have to consider:

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29 Responses to items about timetabling in secondary schools will help shape future developments in the project "Timetabling for life-worthy pathways". For more information about this project, see: https://www.nzcer.org.nz/research/timetabling_lifeworthy_pathways Responses to items about integrating learning areas will inform another new project, "Researching pedagogy for curriculum integration".
30 The review's findings are available at: http://www.conversation.education.govt.nz/conversations/ncea-have-your-say/

> You do the best you can, the difficulty is to individualise within an artificial (timetable) constraint. To meet the needs of the students, wishes of the community, and collective agreements is hard.

> Timetabling to include MLE[31] spaces, in line with school philosophy, places immense constraints on the staff/student timetables for non-MLE spaces, creates an extremely long and complex timetabling process.

> Teacher contact hours create significant constraints. Bus systems create the greatest level of constraint. And impact on learning opportunity.

A further 8% of the principals commented that their school is currently working on reviewing their timetabling arrangements, 5% said they have changed their timetable, and 3% that they are happy with their current timetable.

In response to a separate question, 77% of the principals reported that their school had been experimenting with their timetable over the past 5 years. This comprises 70% of schools where this experimentation has resulted in timetable changes being made or retained, and 7% where no changes were retained.

In 22% of schools, no experimenting had occurred. This included 17% of schools whose principals would like to try some different timetabling arrangements.

Deputy principals tend to have the main responsibility for timetable development

Who has the main responsibility for timetable development in secondary schools, and who else contributes? Principals' responses indicate that deputy principals have the main responsibility for timetable development in 69% of schools, and principals themselves have this responsibility in 38% of cases (see Table 6).

TABLE 6 **The main person(s) responsible for developing schools' most recent timetables, reported by principals**

Main person(s)*	Principals (*n* = 167) %
Deputy principal/s	69
Principal	38
A teacher	32
Head of department or head of learning area	27
Associate principal/s	22
Other	13
Administrative staff	5
Careers adviser	4

* Principals were asked to tick all that apply.

The "Other" responses include 10% of principals who give non-role-specific responses, some of which indicate a collaborative approach (e.g., timetabler, or timetable team/committee).

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31 MLE is the acronym for Modern Learning Environments, which are intended to be high-quality, flexible learning spaces.

The most likely reasons for a staff member having this responsibility are their experience (81% of principals indicated this) or skill (79%). Being available for the task or having this included in their job description is the basis for 71% of staff members being the main person developing the school timetable. A smaller proportion of principals (40%) indicate a person's willingness to undertake this work is a basis for having this responsibility, and 9% of the principals said their school's timetabler is doing this out of necessity, because there is nobody else suitable or available.

School leaders and senior managers have the greatest input into timetabling

While one or two people usually have the main responsibility for timetable development, they need to work with the input of a range of others. Table 7 shows the input of various people who did *not* have the main responsibility for developing the school's most recent timetables. Those in senior management and leadership roles had the greatest involvement in timetable development. The patterns of involvement for teachers and students were fairly similar, with over 60% of each group having at least some input. Tertiary education organisations had some input in 14% of cases. Other external groups and organisations were less likely to have any input into a school's timetable.

TABLE 7 **Input to the development of the school's most recent timetable from people who do *not* have the main responsibility, reported by principals (*n* = 167)**

	(No response) %	None or almost no input %	Some input %	Involved in most or all aspects %
Principal	1	2	52	45
Deputy principal	10	12	40	39
Heads of department or heads of learning areas	3	5	80	12
Students	11	26	56	6
Associate principal/s	57	12	24	6
Teachers in your school	9	20	68	4
Careers adviser	17	42	38	4
Whānau, parents, and caregivers	20	50	28	3
Tertiary education organisations (e.g., polytechnics, ITOs, wānanga, PTEs, universities)	20	65	14	0
Administrative staff	21	66	13	0
Teachers in other schools	22	72	7	0
Local or regional employers	20	74	6	0
Iwi organisations or trusts	22	75	4	0
Social enterprises or community trusts (e.g., Youth Enterprise Scheme; Fletcher Challenge Trust; Watercare)	22	77	1	0

Most secondary school timetables include 45–60-minute periods

Principals were asked to indicate which timetabling arrangements were included at their school. Most—but not all—principals report their school's timetable includes subject periods of 45 minutes to an hour (see Table 8). Timetables in half of schools provide students with opportunities to combine different kinds of options, such as sciences and arts, or vocational and academic options within their overall programme of learning.

Overall, principals' responses reflect a core timetable arrangement of 45–60-minute periods around which there is a diversity of timetabling arrangements: vertical grouping of students, study-style lessons with a teacher on-hand, and longer blocks of subject time are each included in timetables at over a third of schools. Almost a quarter of principals say their timetables include shorter days for students than days of about 9am–3:30pm, allowing teachers more planning and marking time. Slightly fewer co-ordinate their school timetabling with other schools or providers to make use of courses, facilities, or staff.

TABLE 8   **Current timetabling arrangements in secondary schools, reported by principals**

	Principals (*n* = 167) %
Subject periods of about 45 minutes to one hour	85
Opportunities for students to combine different kinds of options (e.g., sciences and arts; vocational and academic)	50
Vertical grouping of students (i.e., different ages together according to ability or interest)	43
Study-style sessions with a teacher on hand to assist students as and when required	41
Blocks of subject time that are longer than one hour	36
Un-timetabled time for students to pursue their own interests, play, or rest	27
Shorter days for students than days of about 9am–3.30pm (i.e., more teacher planning and marking time)	23
Co-ordinated timetabling with other schools or providers to make use of courses, facilities, or staff	20
Short break times to manage student behaviour issues	19
Something else	10
Weekly cycles that include day-long periods of time (e.g., single line days)	10
Some or all days for students *starting* no earlier than 10am and *finishing* at or later than 5pm	5
Longer days for students than days of about 9am–3.30pm (i.e., more time for structured learning)	4

The "Something else" responses included 3% of principals who said their current timetable includes pastoral groups, wellbeing programmes, or mentoring.

Teachers' preferences for timetabling arrangements vary

Teachers' preferences for timetabling arrangements in their school, if they were free to choose, are shown in Table 9. Just over half indicate a preference for subject periods of 45 minutes to an hour, and opportunities for students to combine different kinds of options. A large minority (44%) are keen to have blocks of subject time that are longer than an hour. Otherwise, there is a wide range of arrangements for which teachers express a preference.

TABLE 9 **Teachers' preferences for timetabling arrangements in their school**

Preference[32]	Teachers (*n* = 705) %
Subject periods of about 45 minutes to one hour	53
Opportunities for students to combine different kinds of options (e.g., sciences and arts; vocational and academic)	51
Blocks of subject time that are longer than one hour	44
Study-style sessions with a teacher on hand to assist students as and when required	40
Shorter days for students than days of about 9am–3.30pm (i.e., more teacher planning and marking time)	30
Vertical grouping of students (i.e., different ages together according to ability or interest)	26
Co-ordinated timetabling with other schools or providers to make use of courses, facilities, or staff	24
Un-timetabled time for students to pursue their own interests, play, or rest	17
Weekly cycles that include day-long periods of time (e.g., single line days)	15
Some or all days for students starting no earlier than 10am and finishing at or later than 5pm	14
Short break times to manage student behaviour issues	14

Ten percent of teachers want something else (such as subject periods of less than 40 minutes, 4-day weeks with longer school days, single-sex classes in co-ed schools for some subjects, or timetabled professional learning time for teachers) and 3% want longer days for students than days of about 9am–3:30pm (i.e., more time for structured learning), 5 days per week.

There are several differences related to subject areas. Sixty-four percent of teachers of Mathematics and Science expressed a preference for 45–60-minute subject periods (compared with 56% for English and Languages, and 44% for Technology, Health and PE, and Social Sciences, the Arts, and Commerce). Teachers of the last two groups of subjects were more likely to prefer:
- blocks of subject time longer than an hour (56%, compared with 38% for Mathematics and Science, and 30% for English and Languages)
- weekly cycles that include day-long periods of time (19%, compared with 10% for Mathematics and Science, and English and Languages).

Looking at teachers' preferences for timetabling arrangements and the current timetabling arrangements that principals report raises questions about why only half of teachers seem keen on the 45–60-minute

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32 Teachers were asked to select up to five options. Some respondents chose more than five, all of which are represented here.

periods that are prevalent in secondary schools. Teachers' views on vertical grouping of students also seem out of kilter with current timetabling arrangements.

Integrating learning areas

The new survey items about the integration of learning areas (subjects) within a course sought to identify how widespread this approach is in secondary schools and why some schools have chosen not to do this. We also asked teachers who have integrated learning areas about their experiences.

Learning areas integrated in 61% of schools, decreasing with year level

Sixty-one percent of the principals report that teachers at their schools have integrated two or more learning areas in the past 3 years. Table 10 shows that integration of learning areas tends to decrease with year level, when gaining formal qualifications increasingly becomes a focus. Noticeably fewer principals report three or more learning areas being integrated within one course, especially in Year 11 and beyond.

TABLE 10   **Number of learning areas integrated by year level, reported by principals (*n* = 101)**

Year level	Number of learning areas integrated				
	2 %	3 %	4 %	5+ %	No response %
Year 9	29	24	11	13	24
Year 10	26	13	10	9	43
Year 11	26	7	1	3	63
Year 12	23	5	2	2	68
Year 13	21	2	2	2	73

Three-quarters of principals whose school has integrated learning areas say it was successful

Of the principals whose teachers had integrated learning areas, 76% rated the school's experience as successful or very successful, 8% as not very successful, and 1% as not at all successful. For 12% of these principals, it was too soon to tell.

Timetabling is cited as a barrier to integrating learning areas

Principals of schools that had not integrated learning areas in the past 3 years (*n* = 66) indicated various reasons for this, using a list of response options (see Table 11). Over half of these principals used the "Other" response to give their reasons,[33] which included their school is currently exploring/investigating/planning integration of learning areas (20%, *n* = 13), and they currently have other priorities (9%, *n* = 6). Principals who gave "Other" reasons also expressed scepticism about the effectiveness of integration; voiced concern about the impact on staff, particularly teacher workload; or said they had not considered it (each 5%, *n* = 3). Together, these five categories represent responses from around 34% of the principals who had not integrated learning areas.

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33 This question was new in 2018, and the codes that emerged from the "Other" responses will shape additional response options, should it be used in future surveys.

Being too hard to timetable was the reason given by 30% of these principals, with concern that subject coverage would be too superficial expressed by 23%.

TABLE 11 **Principals' reasons for not integrating learning areas at their school**

Reason	Principals (*n* = 66) %
Other	55
It is too hard to timetable	30
Subject coverage will be too superficial	23
There are no teachers interested in trialling learning area integration	17
It does not work with NCEA	15
It will be too much work to assess	5

Most teachers have not recently been involved in integrating learning areas

Seventy percent of teachers have not been involved in integrating learning areas in the past 3 years. When asked why they did not integrate learning areas, teachers' reasons were often related to doing justice to the demands of the learning area(s) they teach (see Table 12). Overall, teachers' responses echoed those given by principals. For example, around a quarter of the teachers and principals who had not integrated learning areas were concerned about the depth of subject coverage. Eighteen percent of the teachers and 15% of the principals who had not integrated learning areas did not think it would work with NCEA.

Support and interest by colleagues at teachers' schools is also a factor. Around a quarter think integration is not supported by their school leaders, and an eighth said they were unable to find other teachers to work with on integrating learning areas.

Like the principals, teachers used the "Other" response to give reasons that were not included as response options in this new question. Thirteen percent of the teachers who had not been involved in integration say it is not on their radar or there's been no opportunity. An additional 8% point to insufficient time for the collaboration that is needed as a reason for not integrating learning areas. Fewer than 5% of teachers who had not integrated learning areas cited additional reasons that included:
  • integrating learning areas being logistically difficult due to department structures or timetabling issues
  • being unconvinced that there was a need for integrating learning areas or any potential benefits to students
  • teachers' lack of expertise in other learning areas meaning they would need professional learning
  • causing concern about including and assessing their learning area
  • they were planning to do this or were exploring the possibility.

TABLE 12 **Reasons teachers gave for not integrating two or more learning areas**

Reason	Teachers (*n* = 491) %
Other reasons	39
I will not be able to cover the subject(s) I teach in enough depth	25
It is not supported by leaders at our school	24
It does not work for the learning areas I teach	20
It does not work with NCEA	18
I cannot find other teachers to work with on integrating learning areas	12
It will be too much work to assess	11
I am not interested in integrating learning areas	10

Teachers' experiences of integrating learning areas

Thirty percent of teachers (*n* = 211) indicated they had been involved in integrating two or more learning areas in the past 3 years. The number of learning areas that were integrated by these teachers is shown in Table 13. As we saw with principals' responses, the overall trend was for integration to happen less as year level increased.

TABLE 13 **Number of learning areas integrated by year level, reported by teachers (*n* = 211)**
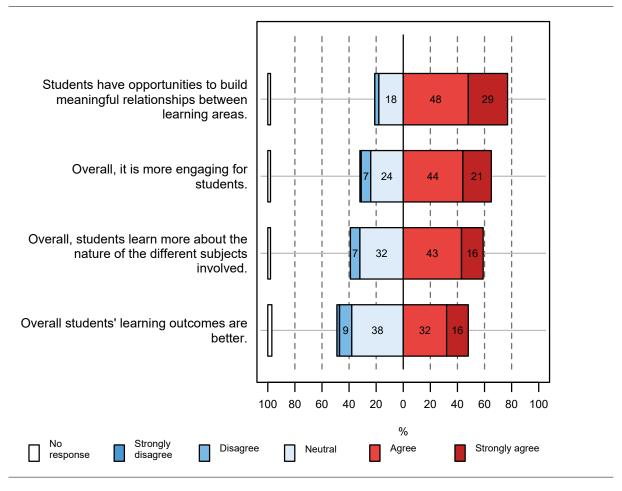
Year level	Number of learning areas integrated				
	2	3	4	5+	No response %
Year 9	28	13	7	6	46
Year 10	28	9	2	6	56
Year 11	21	6	2	1	69
Year 12	19	4	2	2	74
Year 13	14	5	1	2	78

Over two-thirds of teachers who have integrated learning areas say their experience was successful

Teachers who had tried integration rated their experiences of doing so, with 68% of this group reporting them to have been very successful or successful, 15% said they were not very successful, and 2% said they were not successful at all. Ten percent thought it was too soon to tell.
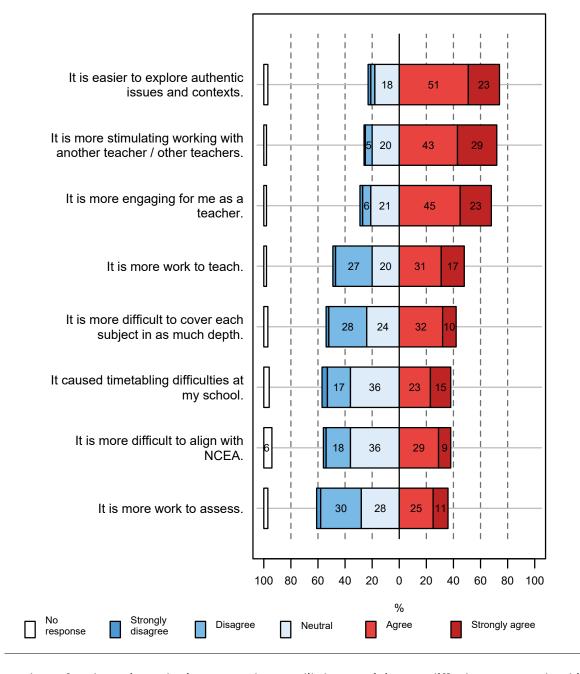
These teachers' views about the effects on students of integrating learning areas, compared with teaching a single subject, are shown in Figure 27. Just over three-quarters think that integrating learning areas provides students with opportunities to build meaningful relationships between learning areas. The teachers are less likely to agree students learn more about the nature of different subjects or have better learning outcomes when learning areas are integrated, compared with being taught as single subjects. For instance, while 48% of teachers agree overall students' learning outcomes are better when learning areas are integrated, a further 38% gave neutral responses here (11% disagreed or strongly disagreed).

FIGURE 27 **Effects on students of integrating learning areas compared with teaching a single subject, reported by teachers (*n* = 211)**

The views of this subgroup of teachers about the effects for themselves of integrating learning areas, compared with teaching a single subject, are shown in Figure 28. More than half of these teachers indicated they had found it more stimulating to work with another teacher, it was easier to explore authentic issues and contexts, and they found it more engaging. Between 36% and 48% agreed they experienced difficulties related to alignment, coverage and timetabling, and workload-related issues. While 36% agree or strongly agree that integrating learning areas is more work to assess, almost as many disagree or strongly disagree (33%).

FIGURE 28 **Effects on teachers of integrating learning areas compared with teaching a single subject, reported by teachers (*n* = 211)**

Teachers of Mathematics and Science were the most likely to say it is more difficult to cover each subject in as much depth (55%, compared with 33% of teachers of English and Languages).

NCEA and *The New Zealand Curriculum*

The New Zealand Curriculum has two sections. The front section of *NZC* applies to all learners from Years 1–13, and explicitly frames purposes for learning. These purposes are particularly important for secondary teachers to understand when the subjects they teach might not easily slot into the learning area structure that is described in the back sections of *NZC*. As well, NCEA standards are separately described. We therefore asked about the relationship between the two.

Principals and teachers tend to see NCEA as setting the senior secondary curriculum

Teachers and principals indicated which of the statements in Table 14—or combinations of these—best describe the relationship between NCEA and *NZC* in their senior classes. A greater proportion of principals than teachers think NCEA sets the senior secondary curriculum, and that *NZC* informs the school's vision and values but is not used in day-to-day subject planning.

TABLE 14 **Teachers' and principals' views of the relationship between NCEA and *NZC* in their senior secondary classes**

	Teachers (*n* = 705) %	Principals (*n* = 167) %
NCEA sets the senior secondary curriculum	43	62
NZC frames the purpose for each subject, with the NCEA standards filling in the detail	35	33
NZC informs our vision and values, but I/we* don't use it in day-to-day subject planning	19	26
Subject design is based on *NZC*, then I/we find NCEA standards to fit	18	19

* "I" was used in the teacher survey, and "we" in the principal survey.

Perceptions that NCEA is a credible qualification dropped

Respondents' views about the credibility of NCEA in the wider community are shown in Table 15. This item was added to the survey in 2009 so can now be tracked over four survey rounds. Perceptions that NCEA is a credible qualification in the wider community improved steadily up to 2015. However, 2018 saw this fall back again, especially for principals and teachers, perhaps reflecting the NCEA review drawing attention to some of its drawbacks. Again, principals are the group most likely to agree with this statement.

TABLE 15 **Perceptions of the credibility of NCEA by respondent group; 2009, 2012, 2015, and 2018**

NCEA is a credible qualification in the wider community (agree/ strongly agree)	Parents and whānau %	Trustees %	Teachers %	Principals %
2009 responses	37	48	47	81
2012 responses	51	56	58	82
2015 responses	59	63	66	92
2018 responses	52	59	54	80

Support for NCEA was cooler in 2018

In 2018, there is a slight cooling of support for NCEA across all groups, compared with 2015 (see Table 16). After being fairly stable from 2009 to 2015, support among trustees, teachers, and principals decreased to the same level it was in 2006. Although parents' support decreased somewhat in 2018, it still remains considerably above the 2006 level.

Over the years, principals have consistently voiced the strongest support. Teachers and trustees follow.

TABLE 16 **Support for NCEA by respondent group; 2003, 2006, 2009, 2012, 2015, and 2018**

I support NCEA (agree/ strongly agree)	Parents and whānau %	Trustees %	Teachers %	Principals %
2003 responses	44	Not asked	65	87
2006 responses	37	58	60	89
2009 responses	45	68	69	95
2012 responses	54	73	68	94
2015 responses	55	69	69	95
2018 responses	50	58	60	89

In 2018, slightly greater proportions of teachers and principals say they personally support NCEA (60% and 89%, respectively) than think it is a credible qualification in the wider community (54% and 80%, respectively).

Responses to the Big Opportunities

As part of the review of NCEA, the Ministerial Advisory Group released a discussion document: *NCEA Review discussion document, Big Opportunities*. Rather than duplicate questions about NCEA that this document encouraged readers to think about, we asked about people's involvement with the review process and their views about the six Big Opportunities, which were:

1. Creating space at NCEA Level 1 for powerful learning
2. Strengthening literacy and numeracy
3. Ensuring NCEA Levels 2 and 3 support good connections beyond schooling
4. Making it easier for teachers, schools, and kura to refocus on learning
5. Ensuring the Record of Achievement tells us about learners' capabilities
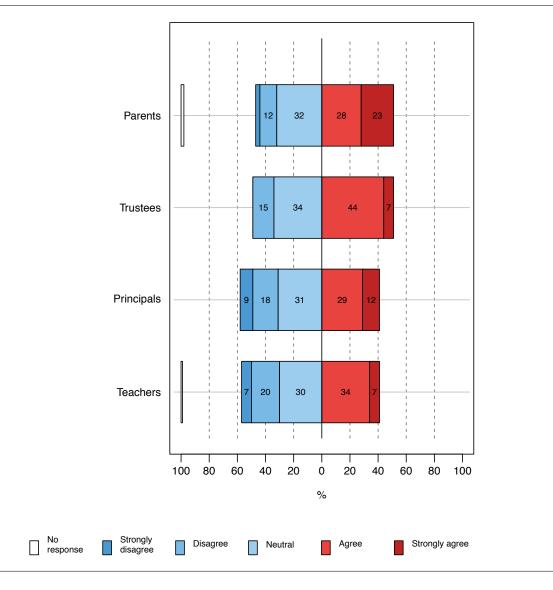6. Dismantling barriers to NCEA.[34]

Respondents were somewhat cautious about the Big Opportunities

How many people had read the discussion document? Ninety-two percent of principals, 46% of teachers, 43% of trustees, and 13% of parents said they had done so. We asked these respondents two further questions, one of which sought to gauge their enthusiasm for the Big Opportunities, and the second, whether they thought the Big Opportunities would make much difference.

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34 For more details about the Big Opportunities, see: https://conversation.education.govt.nz/conversations/ncea-have-your-say/big-opportunities-he-aria-nui/

Figure 29 gives a picture of how much respondents who had read the discussion document are excited by the Big Opportunities. Overall, more agree than disagree in all groups. Parents' and trustees' views were somewhat similar, although more parents responded "strongly agree". Teachers' and principals' responses were more cautious. Around a third of each group gave a "neutral" response.

FIGURE 29 **Responses by those who had read the NCEA Review discussion document, about being excited by the Big Opportunities**

Did people who had read the NCEA Review discussion document think the Big Opportunities would actually make a difference to teaching and learning? Table 17 shows that close to half of principals, teachers, and trustees who had read the discussion document do think these would make a difference. Fewer parents shared this view. At least a quarter of those in each group gave "neutral" responses.

TABLE 17 **Responses by those who had read the NCEA Review document, about the likely effect of the Big Opportunities**

I think that the Big Opportunities will <u>not</u> really:	Strongly agree/ Agree %	Neutral %	Disagree/ Strongly disagree %
• make much difference to teaching and learning in this school (Principals, *n* = 154)	29	25	46
• make much difference to my teaching (Teachers, *n* = 323)	26	27	44
• make much difference to teaching and learning in this school (Trustees, *n* = 59)	27	31	42
• change anything for my child (Parents and whānau, *n* = 65)	48	26	22

Summary and discussion

In relation to school timetable design and integration of learning areas, there were signs of interest in doing things differently, as well as some preferring the status quo.

Developing a timetable for a secondary school is a complex task, with many constraining factors that schools do their best to accommodate. Some principals expressed frustration with the challenge of developing timetables to meet the needs of all students, and some would like help to do this. Deputy principals tend to be the person with main responsibility for developing school timetables, usually because they have experience and skill in doing so. Others who contribute are more likely to be principals or heads of department/learning areas, with teachers and students also having at least some input in many schools.

Subject periods of 45–60 minutes are included in the current timetable of the majority of schools, and just over half of teachers express a preference for these, if they were free to choose. Many teachers also said they would like opportunities for students to combine different kinds of subject options. Principals reported a diversity of additional arrangements that sit around the widely used 45–60-minute subject periods, indicating that there is quite a lot of exploration of alternative timetabling arrangements.

Timetabling difficulties are a reason some principals give for not integrating learning areas at their school. However, more than half of principals say they have integrated some learning areas at their school over the past 3 years. This typically decreases with students' year level.

Less than a third of teachers had been involved in integrating learning areas in the past 3 years. The gains many of these teachers saw in integrating learning areas, compared with teaching standalone subjects, included integration proving more professionally stimulating and engaging as a teacher. Although those who had been involved in integration also saw some benefits for student engagement and building relationships between learning areas, they were less convinced that integrating learning areas resulted in improved learning outcomes for students. They expressed concern that integrating learning areas is more difficult to align with NCEA and is more work to assess, compared with teaching single subjects. The main concern of teachers who had not been involved was the depth of subject coverage that would be possible, a concern shared by some principals. A lack of support from leaders in their school was another reason some teachers gave for not integrating their learning area with at least one other.

NCEA was seen as setting the senior secondary curriculum by many principals and teachers. In the same year as a major review of NCEA, support is cooler than in previous surveys and fewer respondents see it as a credible qualification in the wider community. Those who have read the review discussion document tended to be cautious about whether the Big Opportunities are likely to make a positive difference to teaching and learning, although almost half the parents who had read the discussion document think the Big Opportunities would *not* change anything for their children.