It's time:

Transformational timetabling practices

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NZCER
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Introduction

This New Zealand Council for Educational Research (NZCER) research project explores ways in which five diverse secondary schools have shaped their timetables to support innovation in teaching and learning. The timetable is often a taken-for-granted presence in schools even though it plays an important role in how teaching and learning are experienced. It's not uncommon to hear secondary school students, teachers, or leaders say there is something they would like to do but they can't because the timetable won't allow it. Timetabling conflicts are a constraint on certain subject and course combinations for students and alter the opportunities for teaching and learning.

The learning approaches and pathways needed in the 21st century are very different from those that the traditional secondary timetable was designed to serve. Increased focus on capabilities for life and learning, vocationally oriented initiatives based on partnerships with tertiary providers, and the move towards curriculum integration are examples of initiatives that have timetabling implications. There is a need to consider how the timetable can be reconfigured to support these kinds of initiatives.

Responses to NZCER's 2018 survey of secondary school principals indicated that there is an appetite for change. The responses also suggested that successfully making changes is challenging:

- 77% of the 167 principals who responded said they had made some change to the timetable in the last 5 years. But some had not retained the changes they had tried.
- Many of those who had not yet made changes were considering doing so.
- 47% of the principals (and 36% of trustees) said that timetabling to support a growing range of student learning opportunities was a major issue facing their school (Bonne & MacDonald, 2019).

In 2019, NZCER completed work for the Productivity Commission on *Subject Choice for the Future of Work* (Eyre & Hipkins, 2019; Hipkins & Vaughan, 2019). A finding from the focus groups for this project was that some schools were making changes to their timetables for a range of purposes related to teaching and learning. These purposes included increasing student choice, enabling access to both vocational and academic pathways, and supporting transformative change in teaching and learning practices. This work appeared to be happening in isolated pockets, and participants at the focus groups were keen to learn about and share timetabling structures and processes that had been tried by others. The current project is a response to this need for more information. It builds on our previous work by investigating and disseminating innovative timetabling practices.

Our research questions

1. In what ways have secondary schools innovated with their timetables to support transformative change in teaching and learning, and why?
2. How effective have the innovations been in supporting the desired changes to teaching and learning?

Our research design

We used a case-study approach to explore the research questions. An invitation for schools to register their interest in participating in the research was attached to an article in *New Zealand Principal* (Hipkins, 2020). The invitation was also shared through NZCER social media channels. We asked interested schools that had implemented changes to their timetable to self-nominate for the study by answering the following questions:

- What is the nature of your timetabling innovation?
- What is the innovation intended to achieve?
- How do you know your innovation has worked as you intended?

Seventeen schools registered their interest. From these, we selected six to participate. We selected the case-study schools purposefully to ensure that a range of school types, student populations, and innovations were represented. One school later withdrew from the research and was not replaced.

There were two phases of data collection. During phase one (August–December 2020), we spent a day at each school to learn about their timetable and to interview staff about their experiences. During these visits it was apparent that several schools were managing complex timetable and curriculum systems that would take considerable time for us, as outsiders, to understand. We also realised that to develop an accurate and full picture of the timetable at each school we needed to speak with students. These factors led to a second phase of data collection.

Phase two involved a return visit to each school early in 2021. These visits enabled us to clarify aspects of the school's innovation and gather additional information about student and teacher experiences. At each school, we held a focus group interview with four to nine students who had experienced the innovation. Students who attended the focus group were nominated by a staff member to represent different personal backgrounds, varied experiences of the innovation, and varying levels of engagement in learning. We also asked each school to nominate one teacher and one student to participate in a "day in the life of" observation. This involved a researcher observing the teacher or the student as they went about their day at school. This activity enabled us to gain insight into the lived experiences of the innovation. These data are included in the school snapshots, which are short descriptions of the timetable at each case-study school (see the Appendix).

Data from phases one and two were also analysed to identify common themes across our case-study schools' experiences of timetable innovation. Sections 1–4 of the report explore each of the themes that emerged. Our intention is to capture the complex and nuanced experiences of schools that have changed their timetables, while also providing useful information for those embarking on timetable innovation in their own setting. The final section of the report pulls these themes together, identifying and discussing key considerations and insights relating to the change process.

Note: In the body of the report, we have used a randomised numbering system for our case-study schools, rather than naming them. This is to protect the anonymity of participants.

1. Exploring the "Why?"

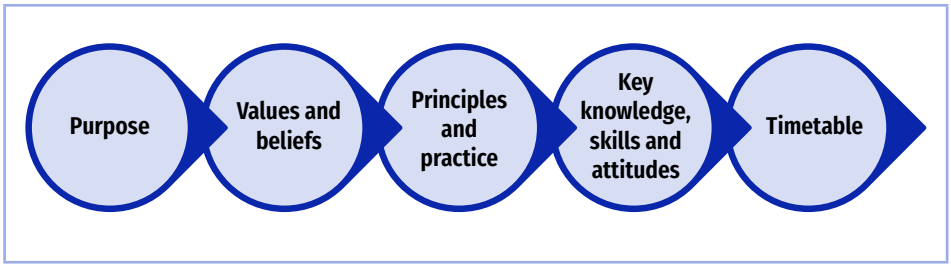
Our guiding questions for this research focused on innovations to the timetable, and the way these might support changes to teaching and learning. However, as we quickly discovered, putting the timetable before teaching and learning is akin to putting the cart before the horse. It is impossible to think about the timetable without first thinking about curriculum and how it is enacted through teaching and learning practices. Here we mean curriculum in the sense of the outcomes that the school community has identified as important for its students. These are often expressed in terms of the knowledge, skills, and attitudes that a graduating student will have developed on their journey through the school.

The timetable is best seen as a mechanism to describe how this curriculum—the desired knowledge, skills, and attitudes—will be delivered by the available staff within the available resources of time and space. In other words, it describes how the school will organise its available resources to deliver this curriculum within the confines of the school day. According to this view, the timetable can be seen as an expression of the school's beliefs about what is important for students to learn. Beliefs about curriculum drive the way the timetable is constructed, and the timetable, in turn, reinforces those beliefs. For example, a traditional five-period timetable organised around single-teacher lessons of discrete subjects, with more time devoted to "key" areas such as English and mathematics, can be seen as an expression of a belief system that prioritises bounded disciplinary learning and a hierarchy of learning areas. On the other hand, a timetable that allocates significant time to courses that integrate two or more subjects, and to student mentoring and coaching, might signal a belief system that prioritises connections between learning areas and a learning-to-learn mindset.

> If you have values and beliefs about learning and you follow it with a graduate profile that'll help you. (Principal)

Across the varied experiences of the five case-study schools, it became clear that the timetable is best positioned as the end product of a process that begins with deep exploration of the school's beliefs about its purpose and what it wants to achieve for its students. This process provides a direct line of sight from school purpose to school timetable. Thinking about and identifying school values, principles, curriculum, and practice are common steps along the way (see Figure 1). Connection between these elements provides coherence and ultimately contributes to a defined school culture. In turn, this attracts staff who align with these beliefs and are committed to the approaches. Everyone understands the purpose and why things are done as they are.

FIGURE 1 **The process of timetable design: beginning with purpose**



This process, beginning with an exploration of purpose, requires extended time and space. The experiences recounted to us suggest that the deep thinking required is best done away from the demands of a busy school life. Finding time and space to engage in this thinking may be easier for new schools—which typically have an extended establishment period before the first students arrive. As the principal at School 3 told us, "It's easier to start fresh with a brand-new purpose-built facility with brand-new staff."

In School 3, the foundation leadership team was able to work on curriculum and timetabling before the school officially opened. They started with "blue skies thinking" around the questions "What do we want our students to learn?" and "What do we value and believe about learning?". To answer these questions, the team explored research, visited schools, and consulted experts in curriculum and innovation. The result was a set of values, principles, and key areas of learning that needed to be reflected in the curriculum (including relationships, physical activity, wellbeing, understanding the local area, literacy and numeracy, and relevant and purposeful coverage of *The New Zealand Curriculum* (Ministry of Education, 2007) learning areas).

The next step for the team was to create graduate profiles for students at key stages in their journey at school. These profiles described the knowledge, skills, and dispositions the school wanted students to achieve at each stage, connected to the values and beliefs they had already identified as central. Only once this thinking had been done could the team begin designing the timetable.

> A timetable started to emerge right at the end … the timetable was always going to be something that couldn't lead us. When you say we believe in a healthy mind and a healthy body, well show me how that's represented in your timetable, show me what that looks like every day. (Principal)

School 4 was also newly built and again was able take time and space to think deeply about the design process.

> We had the luxury in the beginning of having a term before the school opened of really working on what we believed and what each of the different parts of the timetable were going to look like … that setting-up phase really has set us up for the continuing process. (Middle leader)

On the other hand, existing schools—sometimes with a long history and well-established culture—must "build the plane while they are flying it". Designing and implementing change must be done alongside the regular day-to-day work

> It cannot start at your timetable … the timetable has to come at the end of a huge delve within yourselves that needs to happen first … how do we transition from values and beliefs to the principles that underpin those? What are the practices we should see if we're living and breathing them, and then how does a timetable support the enactment of the practice? And that's no quick journey. (Senior leader)

> I think the question really is 'Why?' 'Why?' is a great question. What do we want to do and why do we want to do it? Then you start backing the truck up. It's like, what do we want our kids to learn? Well, could we write a list of everything we want them to learn? To develop that list, we had to unlearn a bunch of stuff that we'd seen before that we'd made judgements on. (Principal)

of the school and without disrupting student learning. For such schools, finding time, resource, and space to do the thinking that will underpin changes to the curriculum and the way it is delivered is harder. The old way of doing things is well established: the culture of the school is well developed and is understood by teachers, students, whānau, and the local community. Changing this requires huge effort and is likely to take considerable time.

Although it may be difficult, the process of examining the "Why?" is still necessary. Exploring, reflecting on, and challenging existing beliefs about the purpose of school, and building a common understanding, is a key first step in the journey of change.

For School 2, getting everyone on the same page was a challenge. There was a strong existing culture of low expectations. The prevailing school and community view was that most students were non-academic and destined for manual or vocational work. The traditional curriculum and timetable tended to reinforce this view: students were disengaged in their subject classes and achievement was low. The current principal led a widespread review of curriculum design and delivery. The first step was to challenge this existing culture by revisiting and reviewing the school vision and values and exploring with staff how these could be expressed through the curriculum. For example, creating small multi-year groups of students with a focus on relationships and foundational learning provided a means of actively modelling the values of manaakitanga and whanaungatanga.

At School 5, the desire for change came from teaching staff. A traditional curriculum and timetable in a small school meant some subjects were compromised or had to be combined with others to survive. Some students had to enrol in subjects they had no interest in, because these were the only choices available, and this led to low engagement and behavioural issues. There was a perceived opportunity for a radical rethinking of the school's purpose.

> If we just looked at changing the philosophy behind what we were doing, it opened up so many more options with the timetable and we could start to create a timetable that worked for people rather than people working for the timetable … It wasn't an evolution that was needed, it was a revolution that was needed … We just needed to take everything over and start again. What we had was set up for an industrial model years ago and didn't really fit where we're at now—where basically students have got information overload at their fingertips. (Teacher)

In all the schools except School 5, the changes were led by senior leaders. While all had consulted with their staff, fewer had consulted with students, and most acknowledged that they hadn't been able to consult as much as they wanted with the local community. This was something that many of those we spoke to acknowledged would have been valuable.

> I think another thing I would do is absolutely be talking with our community before change because I think that's a really rich resource that we could've drawn on more. (Senior leader)

It was about overhauling the thinking … you can create a model or redesign your curriculum, but if you don't know your 'why' and you don't believe it, then I think that is a problem, the first stage you know, of your challenges. (Middle leader)

If you've got lots of people who have very different beliefs about what school is for or about what this school believes is important, that's when it's hard because people will get really unhappy because they genuinely don't believe that this is what we should be doing. That's the harder thing. It's worth spending time on what's our school for, how do we serve our community. (Senior leader)

For me, it's going back to the vision and the values. (Principal)

> One of the biggest things that we suffer from at our school across the board would be community engagement … the understanding as to what we're trying to do. (Middle leader)

Students told us that their parents and whānau often struggled to understand the way the school worked. Parents often had only their own experience of school to draw on, so changes to traditional structures were hard for them to understand.

> I feel like after three years of me being here, they've just left it to me. (Student)

> I've been here for almost a full four years … but my parents are still quite confused on it … they still have a hard time understanding. (Student)

Similarly, it was apparent when we spoke to students that their voices may not have been heard as part of the resetting of the school purpose or in providing feedback at early stages of the change process. In some cases, even though student feedback was gathered, students felt that their views weren't given weight.

The views that some students expressed showed that their thoughts about the purpose of schooling did not align with those of school staff. For example, some students working in contexts that required self-directed learning expressed the view that they would have preferred more structure, with more teacher direction and one-on-one time.

In contrast, in other contexts, students felt that their feedback was valued and resulted in change, and that the purpose behind the changes was well explained and effective. For example, at School 3, students we spoke to were positive about the timetable structure. They were able to articulate what the school hoped to achieve by designing its learning in this way, and how this would contribute to their development at school and beyond. They also felt that their feedback was actively sought and taken into consideration: "We had a Friday activity where we got to say what we would like the [timetable] to look like as students" (Student).

A senior leader at School 2 underlined the importance of student input into timetable changes.

> In the past … timetables have served teachers' needs more than they have young people's needs. I would involve young people early on in that conversation. Really genuinely. Not just saying, 'We're doing this, what do you think?' but actually opening up the floor and saying, 'Okay, everybody, some worthwhile thinking—what could it look like? Let's accept anything' and then explore from there and make a plan and go through with it. (Senior leader)

I feel what we discussed never really changed anything, it was more the whole timetable was like … 'Well, we will go the complete opposite end and see if that works'. (Student)

I feel like the teachers' opinions are more in, say, than what the students' are … they just tell us that the timetable is changing. (Student)

The [values] can't just be the icon on the third page of your strategic plan; they've got to be owned by everyone who's a stakeholder to them being realised. And so that requires a step back and a reset or a mechanism of some sort so that people actually have input into what that looks like. Then say, 'Okay, well if this is what we are truly saying as a teen parent voice, learner voice, leadership voice, chalkface teacher voice …' (Senior leader)

Our conversations with leadership, teaching staff, and students underlined the importance of the whole school community understanding the reasons for changes. This must start with the vision of what learning is for (a clear sense of purpose) and flow through to decisions about curriculum and, ultimately, timetabling. A clear understanding by all involved—including the board of trustees, whānau, and the wider community—provides a solid foundation for change by building a shared vision and strong support for what the school is trying to achieve.

> I think one of the biggest things that we suffer from at our school across the board would be community engagement and … the understanding as to what we're trying to do, so that can be quite challenging for some of our students to engage in something which they might not see as valuable or useful yet. (Senior leader)

In this section, we have considered the process of implementing change, beginning with a clear sense of purpose. In the next section, we look at the similarities between the case-study schools' purposes for change, and the elements that each school's design have in common. We will also consider the complexity of the systems and processes underpinning the new ways of working in each school.

> Parents are answering from what they remember school being like … You're looking from the outside as a parent and you're thinking, 'What the hell are they doing? Why have they not got my kid in front of a teacher, in front of the same teacher in a set class five times a week where they can be taken through the units that work and achieve the standards?' (Teacher)

2. Designing for change—similarities, differences, and complexities

Each of the schools we visited had a distinctly different timetable (see the Appendix for short descriptions of the timetables). However, there were also some common threads, particularly in the underlying purposes and in the key elements of the timetables. The way these elements were combined, and the complex systems and processes underlying their implementation, differed across schools. We begin this section by looking at the similarities across timetables.

Similarities

We could see similarities in the purposes and outcomes driving the design of the timetables, and similarities in the elements of the timetables themselves.

Staff at each school described the kinds of outcomes they hoped to achieve through their innovations. These commonly included improvements to:

- student agency
- student choice
- individualised pathways
- student engagement
- teacher agency
- the development of future-focused skills and competencies, such as self-direction and critical thinking.

Schools had designed for these outcomes in different ways. Nevertheless, there were common elements across the timetables in several schools. The most common of these elements were regular blocks of extended advisory time; longer learning periods; and large proportions of time for integrated learning modules. Each of these is now discussed in turn. Following this, we discuss the complexity of the systems and processes that supported the enactment of the timetable across our case-study schools.

Regular, extended whānau/advisory time

Three of the five schools we visited had built in an extended period of advisory time at the start of each school day. These advisory sessions were used to deliver the school's specific advisory curriculum, which in each case had been identified as an important aspect of the school's purpose. The sessions varied from 45 to 90 minutes across the schools. In all three schools, the advisory

groups consisted of around 15 students drawn from all year levels across the school. The students stayed with the same group, led by the same teacher, throughout their school journey. All teaching staff, and in some cases all leaders and senior leaders, led an advisory group.

In each of these schools, the extended advisory period reflected a desire to create a familiar welcoming environment at the beginning of the day where students could make connections, build relationships, find a sense of belonging, and experience the school values and culture in action. Because each small group was led by one teacher, each student had the opportunity to build a solid relationship with an adult mentor who could track their progress, provide advice on pathways, and act as a conduit between home and school. In addition, each advisory group followed a specific curriculum. These curricula variously focused on foundational skills (for example, literacy and numeracy), social–emotional learning, skills such as self-direction needed for future-focused learning, and/or key competencies.

Whereas traditional "form time" is sometimes viewed as a "tick-box" activity, teachers and students in our study deeply valued the extended advisory sessions at their schools. The benefits for teachers were the deep connections they developed with their group of students and the satisfaction of watching them grow and learn during their time at the school. Teachers also felt that these sessions provided a place where school values could be modelled and embedded and provided students with a "home" at the school: "It gives the learners that real sense of connection and belonging to here" (Teacher). For some, the emphasis on extended advisory time in the timetable was a factor in their decision to work at the school.

> To see dedicated space for social emotional learning built into a timetable, that had dedicated ringfenced space in a week and wasn't a tacked-on 20-minute-hit class, was really a big drawcard. (Teacher)

Students told us that they valued the social connections they made in their advisory groups, especially the connections with students from other years across the school. These connections allowed them to give and receive support; for example, younger students could get advice from those who had been at the school longer, and older students could act as guides and mentors for the those who were new to the school.

> It's really good because last year I could learn from the Year 13s as a Year 11. And I'd be 'Oh, you know, what's good about this?' And then that's kind of how I got into Trades Academy. Because we were talking to Year 13s and they're like 'Oh, you should do this. You'd really like this.' And it's just a really good way to get experiences. (Student)

> Yeah, and they can help you with things and give you advice … Level 1 they can help you, or things about Level 2 they can give you advice, and the same with the younger kids—for Year 12s we can help the Year 11s out. (Student)

> We call ourselves a second family … You have your friend group but then you have your [advisory group] which is like another whole connection. You'll make fun of each other and no one will really mind, and you have that same connection with your coach. You feel open to talk to them about anything. (Student)

Students also enjoyed having a supportive "family" at the school to help them navigate the ups and downs of school life.

> It's really good that we have that group—it's just your support there … We hold each other accountable, we mentor, we advise them, and we coach. (Student)

Many students also enjoyed the focus on capabilities and wellbeing, which they thought prepared them well for life at school and beyond.

> You get to learn not just the skills or the curriculum but the skills of actually getting along with others and yourself. There's a lot of focus on managing self and then others … I think that's pretty useful. (Student)

Longer learning periods

All five case-study schools had built blocks of time longer than the traditional 50–60-minute period into their timetables. Three had blocks of around 90 minutes, another gave staff the freedom to create longer blocks of time for their subject by combining shorter periods, and the fifth school gave each subject a double period each fortnight.

> You can't get out a worksheet for 100 minutes. That's not going to fly. (Senior leader)

We heard a variety of reasons for the longer periods, including a desire to reduce the number of transitions in the day, and to allow for deeper learning. However, both staff and students acknowledged that using these longer periods of time effectively required a shift in pedagogy and a more "active" delivery style.

Teachers of more practical subjects particularly liked the opportunities afforded by these longer periods.

> Loving the 100-minute lessons … it gives you time, if you are a practical-based class, you have an opportunity to actually go offsite, 'cos you then travel 20 minutes, have an hour session and then be back and all of that kind of stuff. Because we have breaks in between each lesson, you can factor in the break time as well. (Teacher)

Large proportions of time for integrated learning modules

Longer blocks of time also allowed for the delivery of integrated learning modules at four of the five schools we visited. In these schools, delivery of *The New Zealand Curriculum* (Ministry of Education, 2007) learning areas was through modules rather than discrete subject lessons, so a large proportion of each school day was allocated to these modules. The design differed from school to school. However, all the modules involved a degree of curriculum integration, combining two or more subjects around a central theme. Some were delivered by a single teacher, and others by a team of teachers working collaboratively. In the senior school, the learning modules or courses included opportunities for NCEA assessment through achievement standards mixed and matched across the integrated subjects. The majority of learning module designs we saw were also multi-level and mixed ability. For example, Year 9 and Year 10 students might be working together, or the modules might involve students who were working at different NCEA levels.

The modules were designed to increase student engagement by providing meaningful, authentic, and relevant contexts for subject-content delivery. In all cases, this was supported by offering students choice in the selection of courses and modules—often with no prerequisites. Teachers (and sometimes students) had input into the design of the modules, allowing them greater freedom to teach to their interests within and across learning areas. This

freedom to combine their subject area teaching with an area of interest or passion, and opportunities to collaborate with colleagues from different disciplines, led to renewed enthusiasm and energy for teaching.

> The projects I absolutely enjoy … I had my own business for 20 years, so a lot of the skills that I can bring to them are not education related, and I can incorporate that into my lessons in different ways … I can live that out in the school, where with other schools I'm sitting and 'Right, open your book at page 45, we're going to do maths now'. (Teacher)

> It's interesting how, when we proposed it, how excited the teachers get about not doing the same old … It is a lot of work … but they've embraced it. (Senior leader)

> It's lovely seeing teachers get that passion back for their subject and be able to be wider than just measurement or algebra, or geometry … to me [it] has been a real joy because there's some excitement … to have that energy coming back in the staffroom is just lovely. (Principal)

In the two new schools we visited, both of which had modern learning environments, teachers collaborated in larger teams to co-teach the modules. They valued the collegial support that this approach offered.

> If you need to tap out there's two or three others that can straight away know where we're up to as a team and take the lead, so that you can get done whatever it is that you need to get done … It's a whānau feel that the teams have and it's not the same as the whānau feel that you might experience being a member of a department in a secondary school. (Senior leader)

This degree of collaboration is more difficult to achieve in a traditional learning environment where teachers are working in separate classrooms.

> One of the schools I was at previously tried to run sort of a similar concept … and it just kept falling short because there wasn't a physical space available to flex with, then they'd go off to their own classrooms and shut that door and then … you're relying on student voice feeding back what they did last lesson to be able to make it relevant in your lesson. It became quite tokenistic or surface level, whereas when you're physically in that space and you can see or you can jump in there like 'Hang on, this is exactly what we're doing in English' or 'This is exactly how we're doing it in math' or whatever, that physical space here obviously provides way more of an opportunity for it to be more naturally occurring. (Middle leader)

As we have seen, the timetables of our five schools had some elements in common, and there were also synergies in the curriculum purposes that these timetables supported. Nevertheless, the way in which the elements were combined and put into practice looked very different in each school. We turn now to these differences, and particularly to the complex systems and practices that supported the innovations.

Differences

As already stated, the design of each school's timetable was distinctly different as can be seen from the school snapshots in the Appendix. Each design, including the complex systems and processes underlying it, was a response to the school's particular context. We now look at those systems and processes.

Complex systems and processes

Each school had developed its own ways of doing things, not only to align with the intended purpose but also to reinforce the school's unique context and culture. Even though some parts of the timetables appeared to be similar, the way they were conceived, combined, and enacted in any one school context was deeply idiosyncratic. There was no "one size fits all".

To outsiders, the systems and processes underlying the timetable appeared extremely complex at times. The way the timetable worked "on the ground"—how it translated to the day-to-day experiences of teachers and students—was hard for us to understand fully. Even though we spent time talking to staff and students, observing teaching and learning, reading school documents, and asking questions, we were still not confident that we had the whole picture.

Each school had developed systems and processes to support the ways of working together that the changes to the timetable demanded. The systems and structures looked different in each school. They could be seen in how staff and students worked together to organise, plan, deliver, and track learning, and in the management structures across the schools. For example, School 4 had several teams of middle leaders with responsibilities in different areas such as the design of integrated learning or the design of the whānau/advisory curriculum. School 2 had created a middle-leader role specifically to oversee and quality assure the delivery of literacy and numeracy sessions. Newly built schools were able to design these systems and processes in advance, whereas existing schools needed to adapt their current systems and processes to support the changes. Regardless of their stage on the journey, all the schools acknowledged that they had to continually review and update the way the systems worked as needs arose.

While it was challenging for us to fully grasp these complex systems and processes, it was evident that the different parts quickly come to make sense to those who are working within them—both teachers and students. For example, a student in School 3 described arriving from a school with a very different, more traditional, timetable. After initially finding the new system hard to understand, she quickly assimilated. For her, a benefit of her new school was that everything "made sense"—she could understand the reasons why things were done as they were.

> It just makes more sense as you go along with it … you get a week to maybe get into it and it just makes sense. (Student)

This "making sense" was particularly evident in schools where everyone had a strong understanding of the "Why?"—where there was a strong common purpose that was well understood by staff and students, guided daily practice, and became part of the fabric of the school. This idea of "making sense" of complex systems and processes is the subject of the next section of this report.

3. Walking the talk

In a previous section of the report, we suggested that the starting point for developing a new timetable should be discussion and exploration of the school's beliefs about its purpose and what it wants to achieve for its students. Setting these beliefs and purposes with the school community is the first part of the process. The second is promoting and communicating them so that they are at the forefront of day-to-day school life and decision-making. This is at the heart of the idea of achieving coherence or "making sense". We saw a range of examples of how this communication could be achieved. In this section, we explore the ways in which the enacted timetable came to "make sense" in our case-study schools.

"Making sense" can be seen as the idea that school practices and processes are accepted as valid and coherent by those who work within them. The practices and processes must align with the school's vision and values, and with knowledge, skills, capabilities, and attitudes the school has identified for graduating students. Practices and processes make sense if they can be seen as supporting the achievement of those outcomes. Two processes are therefore involved in the idea of "making sense": the process of setting and communicating outcomes so that they become a living part of the school culture; and the process of developing practices and processes (including the timetable) that will support those outcomes.

Developing "touchstones"

In an overview of the findings from the Curriculum Implementation Exploration Studies (CIES) project in 2011, Hipkins et al. discussed the idea of "touchstones"—artefacts such as formal mission statements, visual icons, and verbal mottos that provide a living reference for what is "taken-as-shared" across the school community (Hipkins et al., 2011). These touchstones provide a useful shorthand to promote and communicate important aspects of the school culture such as the vision, values, and desired teaching and learning outcomes. They also help to "support and enable consistency and coherence in ongoing adaptation and change" (p. 84).

This idea of "touchstones" resonated with our findings from the current study. In schools with a strong sense of coherence, a shared sense of the "Why?" behind changes, there was a common, well-communicated understanding of the school's direction and culture, shared by staff and students. This shared understanding guided decisions about teaching and learning. Examples of touchstone artefacts in our case-study schools included toki pounamu gifted

to each new student by their learning advisor, symbolising the school's belief in relationships and each individual's mana and contribution to the wider school community (School 3); a vision statement "the school for leaders" (School 2); publicly available graduate profiles (School 3); and a visual icon showing how the strands of the school's curriculum interconnect and support the vision of "connected, collaborative and community minded" ākonga (School 4).

In each of these schools, the touchstone artefacts summarised the outcomes of a process that began with deep, shared exploration of the school purpose, values, principles, and desired outcomes for students. How this shared understanding guides practices and processes is the second piece in the "making sense" puzzle.

Aligning practices and processes

To achieve coherence, the shared understandings must be lived out in daily practice. Each member of the school community has a role to play in "walking the talk". Teachers and students put the values and principles into action in what they do and the way they do it. For example, if teachers want students to be innovative problem-solvers, they need to both teach and model problem-solving—it becomes something that drives the way they do things, as well as the way they teach.

When daily practices do not align with the school community's espoused values and beliefs, staff and students may experience a feeling of discomfort. Conversely, when daily practices align with the shared goals, there is a feeling of coherence: the practices at school level, staff level, and student level align with and reinforce the purpose, values, and principles. If so, then they might be said to "make sense" to those involved. The school's way of doing things makes sense because it is coherent with the espoused values, principles, and direction.

Across the schools we visited, we noticed different levels of coherence—different levels of "making sense". It seemed to be easier for new schools to develop a level of coherence where the purpose, values, and intent of the curriculum (and hence the timetable) were part of the school fabric and well understood by staff and students. As has already been said, newly built schools often have time and space for exploration of the school's purpose, values, and principles, and to create systems and processes that will support these. With this culture, systems, and processes in place, staff and students can be inducted into them in successive waves. In the new schools that we talked to, the foundation leadership teams had sought to appoint teaching staff who were attracted to what the school was trying to do and wanted to be part of it. This in turn strengthened the culture so enabling it to be passed on to students as they entered the school each year.

> Being a new school, we're in a privileged position to … actually create coherence. I imagine it's a lot harder for schools [that are] 80–100 years old who have had tack-ons and multi-layers of leadership, who are trying to find some coherence in that. (Senior leader)

In a more established school, the process of creating coherence around a redefined purpose may be more complex and problematic as different groups engage with the new thinking and use it to define ways of working.

In our visits to case-study schools, we saw examples of three groups within the school community "walking the talk": senior leadership; teaching staff, including those new to the school; and students. It seemed that members of these groups moved along a continuum of development as they grew their understanding of how to enact the school's vision, values, and goals in their daily practices.

Management/senior leadership

Across the five case-study schools, we could see the crucial role that leaders played in creating coherence around the school's values and goals. For example, senior management at some schools deliberately and actively modelled the school values and beliefs in their interactions with staff and students.

> … people recognising who we are and what we're about, that takes some leadership … it needs to be enacted as well as talked about … you are judged more by your actions on your values and beliefs. 'I value and believe this'—okay, show me. It's as simple as that … enacting what you value and believe. You can't just keep talking about it. (Principal)

Shared commitment on the part of the senior leadership team is not necessarily so easy to build in a school with established practices firmly in place. If senior leadership at the school are not behind the change, it is likely to be more problematic to achieve coherence. In School 5, which was a well-established school with a traditional structure, the process of change was led by the teaching staff rather than by senior leadership. It was difficult for the school to achieve coherence and the change process had been uneven.

> You need staff buy in, you need staff on board because it's been the thing that has helped us create the learning experience and reflection space … so work on staff first, help them see the vision, give them ownership in the vision and helping create something that's authentic to this school. (Senior leader)

Teaching staff

Senior leadership also have an important role to play in creating opportunities for staff to come together to explore and discuss the school's vision and values and what they mean in terms of daily practice. Staff need to engage in this discussion regularly to ensure continuity of understanding. For example, at School 3, the foundational leadership team shared their thinking with teachers as they came on board from the middle of the foundation year, focusing on the process of moving from values and beliefs to enacted curriculum and finally to the timetable. This process is now repeated with staff, including existing staff and those new to the school, at the beginning of each year during a whole-staff retreat. This ensures that shared understanding continues to grow.

> Having a really strong 'why' … [and] coming back to it and keeping it at the forefront … coming back to that and actually bringing people along the journey is key and them seeing the value and the vision and understanding and being part of the why, like they're all part of it not just having it over here or in some document. (Senior leader)

> We have to come back to the vision. We all bring our own ideas, these are high level ideas, abstract ideas, and we need to keep coming back to land them. (Principal)

The following set of quotes is an extract of an exchange between senior leaders during a group interview:

> [Speaker 1] In my experience with school, sometimes these visions are so abstract and lost in documentation that people forget that there are stories

> that people are generating as a result of those vision statements or those principles or whatever those things are for each school. If you don't have those open conversations and dialogue and then think about how you can settle those things in to a school system …
>
> [Speaker 2] We want to walk our talk … we need to agree exactly what the nuanced ideas around our talk are, and we want to continue to walk in that direction.
>
> [Speaker 1] It's an ongoing process of refining and coming together, I guess. (Senior leaders)

In the process of coming to "walk the talk", teachers must be able to understand, identify, and agree with what the school is aiming to achieve. This may involve personal reflection and adjustment of long-held beliefs about teaching. This is true for both newly built and established schools.

This process of unlearning and aligning to the school's vision for change is a process. Teachers can take time to adjust to their changed role within the school.

> Beyond that six months is where you start to see, 'Okay, there is value in what I've brought with me and this is what I can offer.' And it's through those first series of offerings … it's not an epiphany but the realisation or awakening that it's the same—same but different—and what you've always been good at you can still be good at, you just need to adapt and apply it in different ways. (Senior leader)

Staff told us that working in a supportive culture, where there was a "whānau" feel, helped to build coherence as everyone was working towards a common goal. Teachers at School 3 told us they had "phenomenal support" from other teachers and middle leaders, and that this made the school an attractive place to work. In the same school, teachers felt that the principal treated teaching staff as a "whānau group" and demonstrated care for their wellbeing and personal growth—thereby modelling aspects of the school culture. In School 5, the move to new ways of timetabling helped to build a sense of collaboration among teachers. Where previously they had worked in distinct subject periods, the new way of working opened possibilities for more flexible delivery and increased sharing.

> One thing I noticed with the timetable change was the community of teachers. [Under the previous system] your period [was] your period and your time slot [was] your time slot. [Now] we do a ton of sharing. We'll say, 'Hey, Ryan needs to do his assessment, is that okay?' And he's in my class and then she'll be like, 'They're doing an assessment now, could he come over?' 'Yeah, sure he can.' And so there's a bit more … in the past there's been, 'No, he's in my class now.' That's not directly linked to the timetable but that flexibility and understanding between teachers is then necessary where the timetable hasn't been able to be totally flexible. There's still flexibility but it has to do with how the teachers communicate and share students' time. (Senior leader)

> To come to a school like this and to invest time in a school like this you have to be willing to want to be part of educational change and believe in it … if you came here because this was the only job in the *Gazette,* it's going to be a hard space. (Middle leader)

> You actually have to unlearn … it's not necessarily the new learning because new learning occurs naturally and is very natural for teachers to do … it's the things you have to unlearn and unbundle … you're letting go of a significant chunk of who you were as a teacher in terms of 'I do things this way, this is my identity' … you've got to unbundle that to be able to move forward in to your new direction. (Middle leader)

Working with students

It is also important that students can make sense of their experiences at school, by understanding what the school is trying to achieve, why this is important, and how teaching and learning practices contribute. This requires communication and modelling by senior leadership and teaching staff, and explicit teaching and reinforcement of the school values and beliefs.

> So we're in a really privileged position where we're able to create some coherence and actually test some assumptions around what schools actually are … putting students at the centre of that and them actually being part of that journey is really important to growing our future students, because if they come through the door and just get churned out the other end and they don't know what's happened to them along the way, we're actually failing as a school. (Senior leader)

> So that thing about kids coming in and being welcomed and told over and over again that they've got a strength and the school needs to know what it is … if you want to be a leader this is the school to come to. Every kid will say that. They'll tell you that this is the school for leaders. It's just building up, it's changing the culture. (Principal)

Students at School 3 learn about and practise using key skills that are embedded in their everyday learning and assessment procedures. These students expressed how confident they were to direct their own learning. They were also able to articulate the links between their learning, the school's vision and curriculum, and *The New Zealand Curriculum* (Ministry of Education, 2007).

> I've noticed that everything that we do at this school, there's a meaning to it. It's going to help us in the future. It's not just there just so we have something to do during school. There's always a reason. (Student)

> I think that [advisory] is a good way to open the day … We're doing something called [name of initiative]. It's basically us learning mindsets and all that stuff. Just our wellbeing. Having those things at the start of the morning and having the social connections, just like straight away is a way for us to get ready for the day. Being prepared already from the get-go and just being there in the present time. (Student)

In the next section, we look at how our case-study schools used professional learning and development to support the change process.

4. Professional learning and development

Previous sections have outlined the extent and complexity of changes to pedagogy needed to support timetable innovation. Not surprisingly, professional learning and development (PLD) plays a critical role in school-wide innovation. We saw a range of professional development structures and approaches across our case-study schools.

Schools that designed PLD with their innovation purpose front-and-centre appeared to better meet the needs of their staff and achieve more flow-on benefits for their students. In schools where cross-curricular and transdisciplinary learning was a focus, PLD also supported teachers to consider how they could best use their subject expertise to support student learning in different situations and contexts. Regular and structured PLD time that responded to the learning needs of staff, while also recognising their workload, helped to create common understanding and a sense of collegiality.

> They put [PLD] into the meeting schedule, but they just added another meeting which took away time that you needed to do planning and marking. (Middle leader)

Prioritising PLD

For schools embarking on a journey of innovation, PLD must be a priority and be allocated regular and ring-fenced time. To be of most benefit, PLD should unpack the critical elements of the innovation and prepare staff for teaching and learning in new ways. Four of the five schools we visited had regular and formalised PLD time. At School 1, this meant allocating one after-school PLD session once a fortnight, while staff at School 3 attended 1 hour of PLD at 8am every morning before school.

For some teachers, PLD can be perceived as another "addition" to already high workloads. However, in the view of the teachers with whom we spoke, more PLD sessions (when delivered effectively) are better than fewer sessions. Teachers at School 1 felt the PLD time allocated to unpacking their school's innovation was insufficient and they felt pressured to manage the incoming changes. They also felt other aspects of their workload, such as marking and regular meeting expectations, could have been reduced or better managed to enable them to fully focus on the innovation.

> This is for the greater good of your wellbeing because we stack the start of the day with PL, we do our PL together but at 3:10pm when the learners go [the Principal] articulates often that he's expecting us to go with them ... School is over for everyone ... they [the staff] are encouraged to walk out there with the birds and follow the learners out the door. (Senior leader)

Conversely, staff at School 3 felt their workload was manageable, despite having 1 hour of PLD every morning. Their engagement in the daily PLD was recognised by the leadership team. There were no additional meetings for staff (unless they were a middle leader, and this was capped at an additional 1-hour lunchtime meeting per week). Staff were also expected to walk out the school gates at the end of the day alongside their students. This expectation was actively reinforced.

Feeling safe to fail and be vulnerable

In some of the schools we visited, staff acknowledged that "unlearning" and "failing" were a necessary part of the innovation process. To be effective, staff must be vulnerable and let go of previously held ideas and identities. In the new-build schools, acceptance of a "trial and error" culture appeared more pronounced, perhaps due to their process of establishment and evolution.

> I think it comes down to the fact that we all need to understand that we're not, I'm not the fountain of knowledge and that I'm learning still too. We're here to support each other and it's okay not to be 100% confident [or] to know everything because that gives each other an opportunity to grow, it gives our kids an opportunity to teach us and help us grow too. (Teacher)

> I think that's the biggest drive for me is that this school gives us the opportunity to be authentic and real and grow and fail and grow some more and be innovative. (Teacher)

A supportive and safe learning culture was seen as pivotal to teachers' abilities to wrestle with the uncomfortable and unfamiliar. PLD reiterated this culture through regular sharing and discussion sessions. Teachers at Schools 3 and 4 spoke about how this "safe to fail" culture reminded them that they didn't need to know everything. Being supported to fail created a sense of openness for some teachers, and allowed them to bring more of themselves to their teaching. Staff felt it was invaluable for students to see teachers engaged in learning, as it role-modelled a lifelong approach to learning and encouraged tuakana–teina relationships.

Being an expert in learning and in teaching

Secondary schools have long struggled with the issue of siloed learning. For teachers in the middle of a transition towards holistic and transdisciplinary learning, a significant shift in their thinking is required. Those who adopted a learning attitude were better able to grapple with the complexity of innovation and the subsequent impacts on their teaching practice. Some teachers were energised by the opportunity to diversify their teaching and apply their subject expertise to different contexts. As one teacher so succinctly put it, "All I want to be is an expert learner and then coach [my students] to be expert learners as well." Although this process can be challenging, many staff spoke about their experiences of growth and development.

> They're still specialists but they become a bit more generalist teaching here … I sort of see it as content and craft. I think there's a real growth of craft because some [staff] bring lots of content, some that's quite specific and others is quite general. (Principal)

> [In] my own experience with sitting with all the English teachers and you think you're pretty cool as an English teacher. But you never really had any professional exchange with the maths teachers, science teachers … and now they're talking, they've all got a common goal, like they all have to teach literacy and [they're asking each other] 'How are you doing?' (Principal)

We heard staff talk about the positive impact transdisciplinary and collaborative teaching has on their enjoyment of teaching. Being able to learn about and teach different learning areas also increased teachers' creativity and sense of agency. This type of teaching and learning is often delivered collaboratively, which encourages staff to maximise each other's strengths to provide impactful learning experiences. It also promotes a learning culture within the staff, by offering multiple daily opportunities for reflection, observation, and feedback.

The first four sections of this report have explored themes arising from our case-study schools' experiences of timetable change. In the next section, we draw on these themes to identify and discuss a number of key insights relevant to the change process.

5. Key considerations for change

We need a new way of thinking about the timetable

For most of us, the word "timetable" conjures up an image of a grid with columns and rows representing periods of time within the day. Each box in the grid represents a chunk of time devoted to a particular activity or focus. Timetables are a taken-for-granted aspect of our daily lives—they help us organise our time and make decisions about what activities we will engage in and when.

Traditionally, the secondary school timetable uses this grid system to show how learning across the school day is distributed among the various subject areas. Devising the timetable is an administrative challenge for schools. They must work out how to organise available spaces, teachers, and time efficiently so that it is possible for students to study combinations of subjects that offer meaningful learning pathways.

> For students, the timetable specifies the range and organisation of the curriculum available to them. For teachers, it identifies how their time is to be used through the year. As a consequence the timetable is the most fundamental workload document in any school. It is the primary tool for ensuring not only access to a reasonable level of curriculum options for students, but also for ensuring the fairest possible workload allocation to teachers within the school's resources. (PPTA, 2006, p. 3)

The academic pathway through to university entrance is often prioritised in the way the timetable is constructed. Subjects that contribute to this pathway may be allocated more time and grouped in ways that constrain student choice to a small number of well-trodden routes (see, for example, Hipkins & Vaughan, 2019). The timetable allows certain clusters of subjects to be studied together but may prevent a more diverse or eclectic mix.

The construction of the timetable along subject lines, and the prioritisation of academic and university entrance pathways, point to underlying assumptions about the structure and value of different kinds of knowledge. Surfacing these assumptions is an important part of the change process and requires a willingness to engage in deep and challenging reflection. The ways of thinking that underlie the traditional secondary school timetable are "deeply coded into the system", much as a computer program runs in the background without users being aware of it (Berenston-Shaw, 2021). Trying to change the school timetable without surfacing and re-examining the assumptions or ways of thinking that underlie it is like painting a wall without repairing the surface. Effective and transformative change in teaching and learning requires a deep exploration and resetting of the purpose of schooling for today's students.

The New Zealand Curriculum (Ministry of Education, 2007) (*NZC*) is commonly referred to having a "front end" and a "'back end". The front end describes the vision, values, and principles that set the direction for student learning in English-medium schools in Aotearoa New Zealand and describes five key competencies for living and lifelong learning. *NZC*'s vision is for young people who will be "confident, connected, actively involved and lifelong learners" (p. 8). This vision signals a purpose for education that

extends beyond the acquisition of academic subject and disciplinary knowledge to the development of capabilities, attributes, and dispositions that will enable students to live as well-prepared, engaged, and confident members of society.

All of our case-study schools were on the journey towards purposefully including some of these capabilities, attributes, and dispositions in their curriculum, and constructing a timetable that would support their delivery alongside subject knowledge. They were at different points in this journey. For some, the process began from the ground up, with a deep exploration of the purpose of schooling for their students. Others were adapting what was already in place while keeping continuity of learning for their students.

In the timetables that we saw, the competition between subjects for a space on the timetable was replaced by the allocation of blocks of time to different types of learning, such as integrated courses or projects, foundational literacy and numeracy, study skills, wellbeing, or relationships. There was choice for students within some blocks, such as integrated courses or projects. Thus, the timetable had become more than a way of showing how the subjects/learning areas would be covered. Instead, it became more about how the school would ensure that the knowledge, skills, attitudes, dispositions, and capabilities that it wanted for its students—the things that could not be left to chance—would happen.

New-build schools that have a preparation period before the first students arrive are in a better position to engage in the deep thinking that this design-for-change process is built on. These schools are typically in areas of high urban growth, where the community is often developing alongside the school. Here, the school purpose, values, principles, and culture can be built from the ground up. On the other hand, existing schools have a harder time finding time and resources to engage in the change process while also maintaining a stable learning environment for students. They may also have the challenge of turning the existing school culture around and bringing students, whānau, and the local community along. This problem is likely to be disproportionately felt in provincial or rural areas where there are fewer new builds, and where new builds are likely to replace existing schools within existing communities.

The process of change needs strong, experienced, and active leadership

The process of designing and leading the development of curriculum in a school from the ground up, particularly in a modern learning environment, leads to valuable learning for those involved. This experience then becomes a rich resource that can help other schools on the journey. For example, among our case-study schools, one principal had been a member of the foundational leadership team of a new urban secondary school. She drew on this experience when she was subsequently appointed to lead transformative change in a traditional provincial school. This was a challenging situation, where a culture of low expectations was entrenched not only among teachers but also among the community and whānau. Experienced leadership was necessary to shift the existing culture and build a strong and cohesive teaching and learning community.

Among our case-study schools, we saw other qualities, besides previous experience, that contributed to successful leadership of transformative change. Successful change requires leaders who are not only experienced in the change process but who also have a strong, active, and confident leadership style. Foremost among these was a strong, clearly articulated, and passionately held vision for education that placed the student firmly at the centre. Secondly, leaders were able to build cohesion among the teaching team, by working with them to set a strong purpose and direction for change and supporting them on the journey. The leaders we spoke to as part of this project lived out their vision in their

interactions across the school, walking their talk and modelling the values and principles that the school had identified as important. They also supported their staff by providing carefully considered PLD in a way that didn't place overwhelming burdens on staff, and by ensuring appropriate management structures were in place. Finding these experienced and passionate leaders and allowing others the space to grow into this role are key issues in the introduction of transformative change to our educational system.

Innovations in teaching and learning require changes in pedagogy

Across the schools in our project, we saw similar types of innovations. Two that stood out were integrated learning and longer blocks of learning time. The way these were introduced looked slightly different in each school setting, but the overall purposes they were designed to achieve were similar. Schools that were innovating with their timetables to support transformative change in teaching and learning cited purposes such as increased student agency and ownership of learning, increased engagement, increased focus on the skills, capabilities, and dispositions for future-focused learning, and supporting students' ability to make connections across learning areas.

We also found that, for each school, the process of implementing these changes to teaching and learning was complex, with many stages and constant review and refinement. Staff required carefully considered support to work in new ways: both integrated learning and a move to longer learning periods require shifts in pedagogy if they are to achieve the intended learning purposes (see, for example, McDowell & Hipkins, 2019). In the schools in our project, this support included time and space for planning and for meeting with colleagues, and structured professional learning. There also needed to be time to reflect on and review the success of the implementation, both individually and as a wider staff group. Integrated learning, for example, appeared to be more successful and satisfying for teachers when there was a culture of support, modelled by leadership, and where staff had opportunities to work collaboratively in teams that recognised strengths and provided a "safe to fail" environment.

Importantly, collaboration could not be left to chance. While collaborative ways of working were valued by those involved, they did not develop in a vacuum. Senior leadership at the school actively modelled collaborative ways of working and put supports in place to build a collaborative culture. This active approach to collaboration echoes the findings of staff at Stonefields School, who developed a framework to support the conditions for effective teacher collaboration (Martin & Bradbeer, 2016).

Given that the innovations we saw required changes to pedagogy and shifts in thinking about the purpose of education, it is pertinent to ask where our newly trained teachers fit into this picture. The staff at the new schools in our project tended to be at the younger end of the teacher age range. Their energy and enthusiasm for new ways of working fed into and supported the culture of the school and supported others on the journey of innovation. While we only spoke to one newly trained teacher, she told us that she had not experienced anything similar during her teaching practicums, and neither had any of her fellow students. Yet, having been at the school for nearly 2 years, she felt she had found her place, was growing exponentially in her practice, and had no desire for working in a more conventional way. Our new teachers traditionally play a key role in supporting change and innovation in the education system through their fresh thinking and perspectives. Providing diverse experiences through initial teacher training is one way of ensuring that those new to the profession are exposed to the possibility of innovation and can contribute to the future of our education system.

Change is a complex and evolving process

Our experience in this project has underlined the complexity involved in implementing change in schools. This complexity has been documented elsewhere and involves "the many variables that exist within the individual system of each school as well as in the wider system which surrounds schools" (Boyd, 2012, p. 44). While our case-study schools shared similar purposes for introducing change, related to improved outcomes for students, each school's response was unique. Sometimes ideas were borrowed from other contexts but there was no easy, one-size-fits-all solution. What was required was a complex process of design across all levels of the school system, influenced by each school's unique needs and context.

Each school shared an agreement that the change process was many-faceted and constantly evolving. The staff we spoke to also agreed that, although it could be hard and challenging work, engaging in new ways of working led to renewed enthusiasm for teaching and invaluable personal growth.

In an education context, there are many layers of expectations about the role and purpose of school. These include government and policy expectations, societal expectations, community expectations, whānau expectations, and student expectations, as well as staff expectations. Deeply embedded ways of thinking at each level impact on how each group perceives the role of education and how they will view the process of innovation. Within each group there is also likely to be a wide range of views. Any school that is considering introducing transformative change must balance the expectations of these groups or work to bring them along on the journey.

Meaningful consultation is part of this process. We saw varying levels of consultation across our case-study schools. Most had sought input from staff, and most had collected at least some input from students. However, consultation with the community, in particular with parents and whānau, had been limited. All schools identified this as an area that they wanted to work on. Lack of community/whānau engagement could be problematic for students, some of whom told us that they had to act as intermediaries to explain the changes to their families. Others told us that their parents had simply given up trying to understand the new system and left it up to their children to navigate it. Changing deeply held views about the "why" and "how" of secondary education is not easy. Parents worry about their children's future and want them to get the best possible education. But their view of what is "best" is often based on their own experiences of schooling rather than what may be needed to succeed in today's uncertain environment. How to involve parents and whānau in the process of change is a challenge for schools to consider.

For all the reasons already outlined, the secondary school timetable is best positioned as the end point of a process that begins with a deep exploration of the school's purpose. Transformative change to teaching and learning within any school is a complex process and requires strong and effective leadership. Leadership is needed to build the collaborative relationships with all members of the school community, including whānau, that help ensure coherence and a shared sense of purpose. Another important role for leadership is to ensure that appropriate processes and systems are in place to support the change, including carefully considered professional learning for staff and a smooth, and wherever possible collaborative, transition for students

Concluding comments

This research has explored transformational timetabling practices at five diverse secondary schools in Aotearoa New Zealand. In each case, the changes to the timetable were designed to support future-focused teaching and learning and new ways of working together as school communities. Across our

schools, we found strong similarities in the purposes driving the changes and in the types of innovations that had been introduced. However, each school had addressed these innovations in distinctly different ways, according to the local context.

Common themes emerged from our conversations with senior leaders, teachers, and students at these schools. They pointed to the importance of positioning the timetable as the end product of a process that begins with deep exploration of the school's purpose, values and beliefs, principles, and curriculum. This process requires extended time for research, exploration, discussion, reflection, and planning. It is often easier to find this time in the set-up period for newly built schools. For established schools with a well-developed culture, the process can be more challenging. Nevertheless, without this deep thinking it is difficult to achieve the shared understanding and coherence that is necessary to implement change effectively.

Another important finding is that changes to the timetable (and school curriculum) are most effective and more easily implemented when the whole school community—school leaders, teachers, students, whānau, and the local community—are involved in the design process. Finally, regular and relevant professional development is important to ensure that staff are well supported to implement changes to achieve the desired outcomes.

6. Reflective questions

The following questions, based on the findings from this research project, may be useful starting points for discussion at different points on the journey of timetable change.

1. The timetable can be viewed as an expression of a school's beliefs about education and learning. If you were to look at your school's current timetable with "beginner eyes", what would it tell you about its educational beliefs and learning priorities? How do these beliefs and priorities align with the needs and interests of students today?
2. Many people in the case-study schools spoke about the importance of positioning the timetable as the end product of a process that begins with a deep exploration of the school's beliefs about its purpose. When you reflect on your school's vision, values, and beliefs, can you identify what has informed this thinking? How have teacher, student, whānau, and community engagement and educational research and policy shaped the school's vision?
3. Student voice and experience are often given less weight than other types of feedback in innovation planning and review. Reflecting on changes made in your school, what role have students played? How has their feedback been used? What was done well, and what opportunities exist?
4. All five case-study schools experimented with longer learning times to allow for deeper and more integrated learning. Thinking about your school, what support structures did/would allow you to use longer learning times effectively and with confidence?
5. To reframe the use and value of form time, three schools in our study built extended whānau or advisory time into their school day. They used this time to deliver important aspects of their curriculum, such as social–emotional development. How is form or whānau time viewed and used at your school? Are there opportunities, either in your own practice or school-wide, to better align whānau/form time with your school's vision and curriculum?
6. "Touchstones", in this context, refer to artefacts that communicate and promote important aspects of school culture and vision, such as mission statements and graduate profiles. Touchstones have been an important tool for our case-study schools, as they go about bringing their vision and purpose to life. What touchstones exist in your school? How well do they reflect the school's vision and day-to-day philosophy?
7. In our case-study schools, PLD played an important role in supporting the innovation. Thinking about change that has occurred in your school, what PLD tools or approaches were most helpful to your understanding and implementation of the change? What support would enhance your implementation?

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Appendix School snapshots

These snapshots are short, factual descriptions of the timetable changes at each of our five case-study schools. They provide details of the school demographics, the current timetable, the process of change, and the interesting ideas that each school has introduced.

Huntly College / Te Kura Tuarua oo Raahui Pookeka

Huntly College
- State co-educational Years 9–13
- Opened 1953
- Traditional design for era
- Roll: 200+, 82% Māori*

Huntly community
- Huntly, 30 km north of Hamilton, 60 km south of Auckland
- Population approximately 9,000
- Strong Māori community, predominantly Waikato-Tainui as mana whenua

** As of 1 July 2020 (sourced from Education Counts website)*

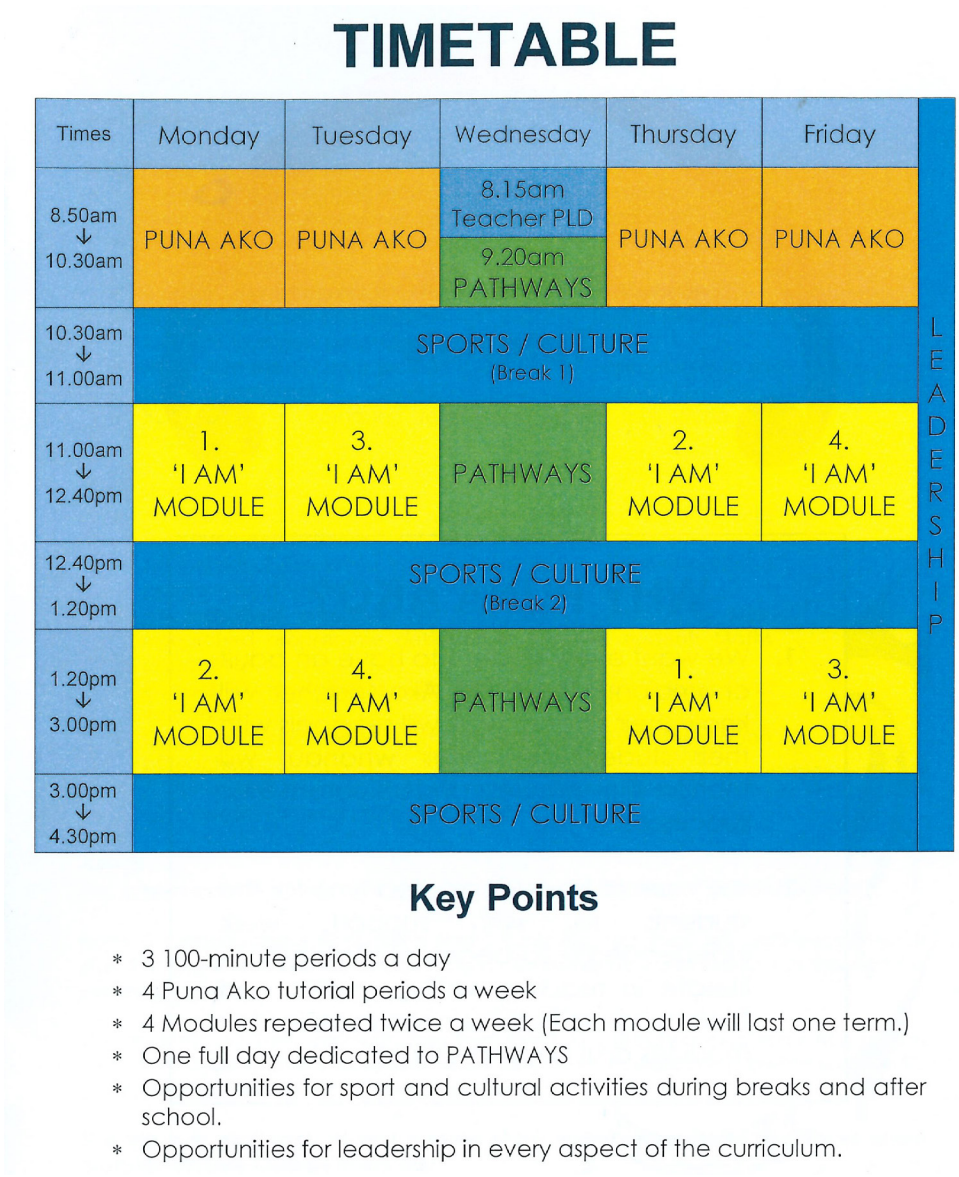
Stimulus for change

Previously, the timetable at Huntly College was very traditional. There was a 15-minute block of form time followed by five periods each day. Subjects were taught in discrete lessons with the majority of NCEA credits via unit standards. There was some streaming in the form of an "elite" class for core subjects.

Over the period 2012–2018, the Education Review Office (ERO) identified ongoing significant concerns relating to low patterns of achievement and suggested that student wellbeing required urgent attention. This urgent need for change was the stimulus for a widespread review of curriculum design and delivery and accompanying review of the school timetable.

Changes were implemented to improve student equity, increase student engagement and achievement, and address a widespread culture of low expectations. The current timetable was designed to support these changes and is shown in Figure A.1 below.

FIGURE A.1: **Huntly College timetable (2020)**



TIMETABLE

Times	Monday	Tuesday	Wednesday	Thursday	Friday	
8.50am ↓ 10.30am	PUNA AKO	PUNA AKO	8.15am Teacher PLD 9.20am PATHWAYS	PUNA AKO	PUNA AKO	
10.30am ↓ 11.00am	SPORTS / CULTURE (Break 1)					LEADERSHIP
11.00am ↓ 12.40pm	1. 'I AM' MODULE	3. 'I AM' MODULE	PATHWAYS	2. 'I AM' MODULE	4. 'I AM' MODULE	
12.40pm ↓ 1.20pm	SPORTS / CULTURE (Break 2)					
1.20pm ↓ 3.00pm	2. 'I AM' MODULE	4. 'I AM' MODULE	PATHWAYS	1. 'I AM' MODULE	3. 'I AM' MODULE	
3.00pm ↓ 4.30pm	SPORTS / CULTURE					

Key Points

* 3 100-minute periods a day
* 4 Puna Ako tutorial periods a week
* 4 Modules repeated twice a week (Each module will last one term.)
* One full day dedicated to PATHWAYS
* Opportunities for sport and cultural activities during breaks and after school.
* Opportunities for leadership in every aspect of the curriculum.

Interesting idea 1: Prioritising relationships, literacy and numeracy, and critical thinking through "Puna Ako"

Purpose

Puna Ako sessions are designed to:

- offer a welcoming, supportive environment for students, where school values can be modelled and embedded
- ensure all students have a solid foundation in literacy and numeracy
- build relationships, connections, and a sense of belonging within the school
- ensure each student has an adult champion and mentor.

Design

The school is organised into four whānau of around 50 students. Each whānau has its own area in the school (learning spaces have been created to facilitate this—for example, two classrooms joined to form a larger space). Each whānau has a Deputy Principal, a Quality Teaching Leader, and three Puna Ako teachers. At the beginning of the day, 4 days a week, each whānau group gathers for karakia and waiata before moving into Puna Ako groups for the first 100-minute block of learning time.

Puna Ako groups are made up of 10–14 students from different years across the school. Students stay with this group throughout their school life, so they develop strong relationships with the teacher and with the other students. Every teacher at the school leads a Puna Ako group and is the main point of contact for these students and their whānau. Puna Ako teachers monitor students' progress and achievement, advise on pathways, track attendance, keep an eye on wellbeing, and conduct parent/whānau interviews. They aim to have a conversation with each student at every Puna Ako session.

Puna Ako teachers also deliver the Puna Ako content: literacy, numeracy, global issues, te reo Māori, and critical thinking. All Years 9–11 students follow a structured literacy (reading and writing) and numeracy programme. Lesson plans and resources for each session are developed by the Quality Teaching Leaders in collaboration with the numeracy and literacy leads. As each Puna Ako teacher uses the same plan, similar content is taught at the same time across the school. Twice-weekly professional development sessions mean that everyone is familiar and comfortable with the Puna Ako sessions' structure and content. Students in Years 12 and 13 complete self-directed learning tasks related to their other modules during their Puna Ako time.

Each Puna Ako teacher identifies focus students for the session and plans individually for these (the rest of the planning for the session is done for them—see previous paragraph). During the session, the Quality Teaching Leader manages the whānau space and makes sure the Puna Ako teaching goes as planned and students are engaged. This might involve working with individual students or with small groups.

The Deputy Principal, Quality Teaching Leader, and Puna Ako teacher come together every third Tuesday to have a three-way conversation about each student in the group—are they on track, have they met their goals, what's next for them? This process began during the COVID-19 lockdown but teachers found it so valuable that they asked to continue it.

Review

The Senior Leadership Team is planning an internal review of Puna Ako to see whether it is achieving the intended goals, and whether anything needs to be done differently. A particular focus will be on how Puna Ako fits for senior students in Years 12 and 13.

Interesting idea 2: "I am" modules

Purpose

"I am" modules are designed to:

- extend students' awareness of career options and pathways beyond school
- provide a relevant way of delivering subject content
- increase student engagement
- shift focus from accumulation of credits towards relevant and meaningful learning.

Design

"I am" modules are integrated units of learning with mixed year groups. Each unit focuses on a different occupation or skill; for example, "I am a builder", "I am a nuclear physicist", "I am a politician", or "I am a café owner" (see example module descriptions in Figure A.2). Each student chooses four "I am" modules a term from the range on offer, with two 100-minute blocks for each module per week.

Each module is classified as either foundation (for Years 9–10), advanced (for Years 11–13), or open (for all years). Each also has a focus on a particular learning area: sciences; the Arts; health, outdoor and PE; English; maths and statistics; technologies/vocational; social sciences; or learning languages. "I am" modules offer an opportunity to transfer and extend the work that students do in Puna Ako sessions. For example, the module "I am an author" offers the opportunity to extend the work on sentence types and language features that students have covered in their Puna Ako literacy sessions. Each "I am" module also includes a visit from a relevant person (for example, a lawyer, a sports coach, or a choreographer).

FIGURE A.2: **Extract from Huntly College's "I am" module student selection form**

Line 1	Line 2	Line 3	Line 4
Chemistry Researcher Understand chemistry used in the development of a current technology and understand the chemical processes in the world around us.	**Nuclear Physicist** Understand the underlying processes of the interactions of matter utilizing the tools of science and engineering.	**Science Expert** Level 1, 2 and 3 Biology and Chemistry Externals.	**Forensic Scientist** Learn to apply the skills used by forensic specialists to observe, recover, analyse, identify and explain evidence.
Circuit Maker Learn about different types of circuits and get the opportunity to build your own circuit. Components of electricity will be taught.	**Money Manager** Learn how to produce a balanced budget to manage personal finances. We will also learn a range of budgeting terms and steps necessary to develop a written budget.	**Network Analyst** Learn how methods related to networks and critical path analysis can be used in the business world to find optimal solutions.	**Geologist** Study earth processes: many processes such as landslides, earthquakes, floods, and volcanic eruptions can be hazardous to people.
Lawyer Learn how to research and argue powerfully. Discover what it is really like to be a student of law and to work as a lawyer. Develop knowledge about the justice system in Aotearoa.	**Sports Director** Learn about human performance. You will learn abut the human skeleton and cardiovascular system. You will also learn about injury management and rehabilitation.	**Shakespeare Enthusiast** Want to laugh? Cry? Cheer the hero and boo the baddie? Then 'Much Ado About Nothing' is the play for you. This is the BEST play ever written. External and internal assessment opportunities.	**Probability Expert** Use and apply probability in the real world. For example, predicting the weather and winning a game. You will learn about possible job opportunities when you leave school.

Assessment

Students completing junior modules in Years 9 or 10 are awarded a Huntly College Certificate of Achievement (HCEA).

Advanced and open modules have NCEA credits attached. The majority of these (around 90%) are achievement standards—this is a significant shift for the school, which previously offered mainly unit standards. As all modules are multi-level, students may be studying at NCEA Levels 1, 2, or 3. This means that students are not tied to one particular level at each year group: a Year 12 student may be working towards Level 3 credits, for example.

There are no prerequisites, so a student can choose a maths-focused module at Year 12 without having previously completed other maths modules. Puna Ako teachers monitor students' choices and talk to them about their pathways to make sure they acquire the credits they need for pathways to further education or training (for example, requirements for University Entrance).

Review

Before the COVID-19 lockdown, the school was offering "I am" modules four times a year (so students completed 16 over the year). In 2020, the lockdown meant they could only offer them three times a year (so students completed 12 over the year). This worked well and the school has decided to continue with this pattern. Students must pick up some learning after the holidays to complete their "I am" learning from the previous term, but this hasn't been found to be a problem. There are advantages in that students are coming back to something familiar each term.

The school is also considering more targeted English and mathematics modules in Year 9 and/or Year 10 to allow junior students to consolidate basics that may not be covered in Puna Ako sessions.

Interesting idea 3: Pathways Wednesdays

Purpose

Pathways Wednesdays are designed to:

- help prepare students for life beyond school, including work or further study
- encourage students to participate, take risks, and challenge themselves.

Design

Each Wednesday, students spend the whole day focusing on a programme of interest. Junior students can choose from options such as waka ama, exploring the local area through place-based learning, or community-based projects. Each option lasts a full term. Students discuss their choices with their Puna Ako teacher and keep a record of their learning that can later be used as part of a CV.

Senior students also have a range of options, including practical life skills courses, such as: gaining a restricted driving licence, budgeting, setting up a bank account, and applying for an IRD number; Gateway programmes; correspondence courses; scholarship preparation for external exams; and local tertiary education courses.

The pathways day also allows the school to react flexibly as needs arise. For example, following the COVID-19 lockdown, the school was able to offer a Wednesday programme to help senior students with exam preparation.

A teacher's perspective

Tom (a pseudonym) is a PE teacher and likes the 100-minute "I am" modules because they allow enough time to incorporate practical activity. A typical day for Tom involves a Puna Ako session and two "I am" module sessions.

On the day we visited, Tom's Puna Ako group of Years 9–13 students was working on Write that Essay! This is an online resource that the school uses to support its literacy programme. Tom welcomed students as they arrived, referred them to the day's online literacy activities, and answered questions. During the session, he checked in with each student. The group was one of three working in the same space (each with its own Puna Ako teacher), with the whole group coming together from time to time to cover specific

teaching points. Tom's next session was an "I am" module, "I am a golfer". Because of the wet weather, this was an indoors session. Tom used a video of a Professional Golfers' Association (PGA) tour to revise golf-related terminology and explore scoring, making links with literacy and numeracy. The group then moved to the gym for practical activities for the rest of the session.

Tom had non-contact hours in the afternoon and spent the time planning forthcoming "I am" module content.

A student's perspective

Taika (a pseudonym) is a Year 12 student. On the day we visited, Taika began the day in his whānau space. He joined his Puna Ako group for a literacy session focused on writing paragraphs, using the Write that Essay! online programme. His next session was the module "I am a soul singer", where the focus was on analysing lyrics and learning to sing in harmony. Taika joined a group of around 20 students from Years 9–13, moving through a mixture of teacher instruction, individual and group work, and practical activities such as learning and practising a song and accompanying actions. After this session, Taika moved to the dance studio for the last session of the day: the module "I am a dancer". During the session, Taika took part in activities linked to the morning's Puna Ako literacy content, followed by practical activities based on learning and performing a dance routine led by a fellow student.

Rototuna Senior High School / Te Kura Nui o te Rototuna

Rototuna Senior High School

- State co-educational Years 11–15
- Opened to Year 11 students in 2017
- Modern Learning Environment (MLE)
- Diverse student population, over 60 ethnicities
- Roll: 700, 19% Asian, 14% Māori, 3% Pasifika*
- Shares a site with Rototuna Junior High School

Rototuna Community

- Rototuna, fast-growing suburb 10 km north of Hamilton city
- Population forecast to reach 20,000 within the next few years
- Diverse population, including 24% Māori, 19% Asian community

***** *As of 1 July 2020 (sourced from Education Counts website)*

Timetable in 2020

The school's curriculum is made up of three components: Whānau (Learning Advisory); Wānanga Ako (Learning Modules); and Puna Wānanga (Impact Projects) (see Figure A.3). These three components are reflected in the current timetable, or "schedule" (see Figure A.4).

FIGURE A.3: **Rototuna Senior High School Curriculum**

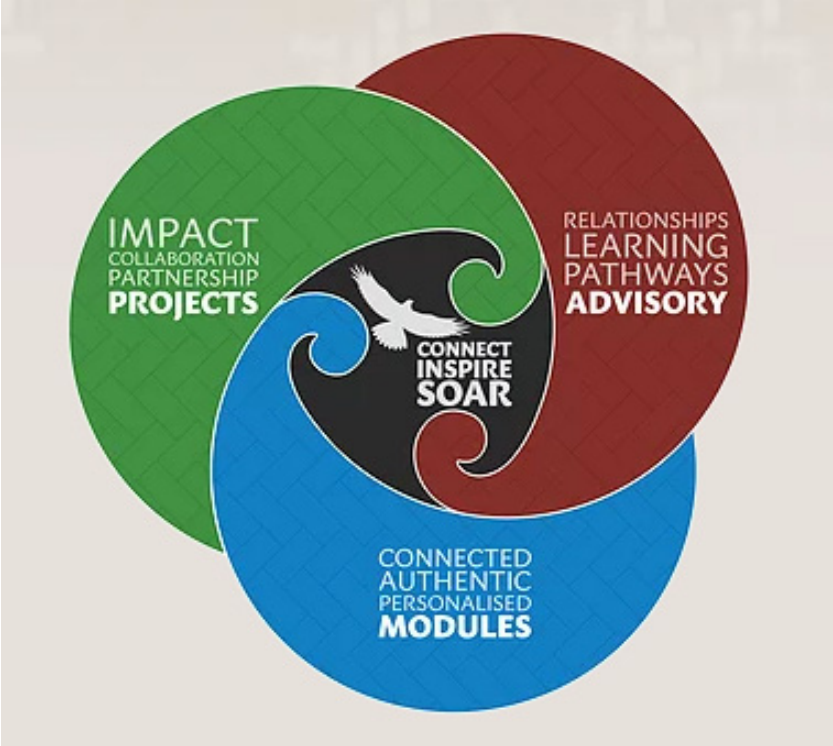


FIGURE A.4 **Rototuna Senior High School Schedule (2020)**

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
WH 8.45 - 9.30	WHĀNAU (Advisory)	WHĀNAU (Advisory)		WHĀNAU (Advisory)	WHĀNAU (Advisory)
B1 9.30 – 11.00	WĀNANGA AKO	WĀNANGA AKO	WHĀNAU (Advisory) / PUNA WĀNANGA (Projects)	WĀNANGA AKO	WĀNANGA AKO
B2 11.30 – 1.00	WĀNANGA AKO	WĀNANGA AKO	WĀNANGA AKO	WĀNANGA AKO	PUNA WĀNANGA (Projects)
B3 1.45 - 3.15	WĀNANGA AKO	WĀNANGA AKO	WĀNANGA AKO	PUNA WĀNANGA (Projects)	WĀNANGA AKO

Interesting idea 1: Extended whānau/advisory time

Purpose

Whānau/advisory time is designed to foster the holistic development of learners. The focus is on relationships and the skills, capabilities, and dispositions needed to thrive in a future-focused world as connected, collaborative, and community-minded citizens.

The main aims of whānau time are to:

- foster a strong sense of belonging among ākonga and staff
- allow each student to develop a meaningful relationship with a "significant adult" at the school
- empower students to be connected, collaborative, and community-minded citizens
- improve learning and achievement
- facilitate Rototuna Senior High School (RSHS) to become a robust community of learning
- make a significant difference to learners' sense of identity, belonging, and the culture of the school.

Each morning at RSHS begins with a 45-minute block of whānau time. All teachers at RSHS have a whānau group of about 16 students across Years 11–13 as part of their contact teaching hours.

The main role of advisory/whānau teachers is to develop relationships with their students, monitor their students' pathways, and act as their students' advocate. The aim is for each student to have a 15–20-minute one-on-one session with their advisory teacher every 2–3 weeks. Students stay with the same whānau group throughout their school journey, so there is time for strong connections to develop. The advisory teacher tracks what's happening for the student in all areas of their learning across the school. They are the main contact for the student's whānau and arrange a conference with them three times a year.

The whānau/advisory curriculum has four strands:

- whanaungatanga (relationships)
- ako (learning—being aware of yourself as a learner and reflecting on the learning happening in wānanga ako)
- huarahi ako (pathways—academic coaching and mentoring)
- manaakitanga (community—reflecting on learning happening in puna wānanga).

Within each strand are a number of threshold concepts, which represent significant, transformative learning steps that allow access to deeper learning. These threshold concepts provide guidance on the learning the school wants students to achieve during their journey at Rototuna. Staff decide how they deliver the advisory curriculum; for example, they may have a different focus for each 3- or 4-week block.

Interesting idea 2: Integrated, collaborative, flexible Wānanga Ako modules

Purpose

Wānango Ako modules are designed to:

- help students access pathways that give them agency, power, and ownership over their learning.
- give students agency to follow their passions and interests
- increase ability to teach students the skills, capabilities, and dispositions needed to thrive in a future-focused world
- increase teacher agency, collaboration, and connectedness
- help students make connections between areas of learning.

Wānanga Ako modules are integrated, co-taught specialised subject courses that provide coverage of *NZC* learning areas. The modules are delivered collaboratively by specialist kaiako at the appropriate curriculum level. Each module integrates at least two curriculum areas around a linked key concept or skill so that learning is enriched through connected disciplines with transferable skills.

Each module also has NCEA standards attached (see example module description in Figure A.5).

FIGURE A.5: **Example of a Wānanga Ako module from the Rototuna Senior High School 2021 Semester 2 course selection booklet**

KAMAR CODE	LEARNING AREA	LEARNING AREA	DESCRIPTION	STANDARD	LEVEL	TITLE
TITANS REMEMBER THE TITANS	HPE	ENGLISH	Become legendary, win at all costs, take everything and give nothing! Remember the Titans! We will learn that team success is not always about being the star player, but working as a team. We will explore the benefits of teamwork, our awareness of what it is to be part of a team and the implications for each individual.	91336	2	Analyse group processes in physical activity
				91104	2	Analyse significant connections across texts, supported by evidence

The school has developed six schools of learning (Wānanga Ako), based loosely around different pathways. Each Wānanga Ako offers:

- Hauora (health sciences and wellbeing)
- Auaha (creatives)
- Tāngata (humanities and commerce)
- Toirau (communication and digital media)
- Toitū (sustainability and the outdoors)
- Pūkaha (STEM).

Each semester, students select which Wānanga Ako they would like to participate in (Year 13 students are encouraged to stay in the same Wānanga Ako for the full year, to ensure they achieve depth in a particular learning area). They also complete a connectedness tool, which identifies their areas of interest.

Teachers are assigned to a Wānanga Ako. The number and specialties of teachers in each wānanga vary according to the students who have chosen it and their interests. For example, some wānanga may have 180 students with eight teachers collaborating, while others may have 50–60 students with three teachers collaborating. Each Wānanga Ako has 12 blocks of learning over a week. Across the 12 blocks, students will be able to engage in a full programme of learning targeted to their individual learning needs.

Teachers in each wānanga work together to generate wānanga-specific timetables, courses, and experiences that are individualised for the students, using the information from the students' connectedness tools. Each course combines two learning areas, is co-taught, and combines instruction focused on subject knowledge, teacher-directed workshops and tutorials, and self-directed learning. Students are required to take ownership over what, when, and how they learn, in consultation with their teachers. They can choose which workshops to go to as and when they need them, week by week.

The courses for each wānanga are described in a guide for students (see extract from Semester 2 2021 course booklet in Figure A.5 above). During the first 4 weeks of the semester, students explore all the courses on offer in the wānanga before making their final selections. Each course has NCEA standards available, which students can opt into; they confirm their choice of standards in week 4, guided by their advisory teacher.

Interesting idea 3: Pūna Wānanga / Impact projects

Purpose

Pūna Wānanga are designed to:

- engage students in additional learning opportunities that make a difference to others and society
- provide opportunities for students to transfer their learning in a meaningful context
- enable students to develop and practise future-focused dispositions, skills, and capabilities.

Three blocks of time across the week are spent on impact projects—practical projects that involve an authentic partner relationship with providers in the community or with community-based services.

A teacher's perspective

Ben (a pseudonym) has been teaching for 7 years. He joined Rototuna Senior High School in 2018, during its second year. Ben is a Poutiaki (Leader of Learning) for mathematics. In this role, he supports his subject-area colleagues across the six Wānanga Ako to develop curriculum and extend their teaching strategies. Because the school's learning schedule and curriculum promotes curriculum integration, teachers must work closely with each other and have excellent knowledge of their specialist learning area and the ways it can be applied in different contexts. Ben has 2 hours each week for the Poutiaki role, meaning he does not have a full teaching load.

Ben enjoys the freedom and flexibility of the timetable (schedule) at Rototuna Senior High School. Within their Wānanga Ako, teachers negotiate when and where they will teach, and collaborative and team teaching is the norm. Ben believes this benefits staff and students, as both groups can learn from and develop relationships with a wide range of others. Ben also believes that giving students freedom to select their Wānanga Ako and negotiate their programme of learning with their teachers has had a positive effect on engagement and achievement. He thinks the flexible learning spaces support the school's approach to learning. However, the open environment can be challenging for students who struggle with sensory overload.

In Ben's view, the workload is high but manageable and enjoyable. He is involved in before-school meetings four times a week, which rotate through different groups of staff and have different purposes. Ben is also involved in lunchtime meetings up to three times a week and spends most evenings at home preparing and assessing student work.

The day of our visit was a typical one for Ben, beginning with a full staff meeting. Ben then met with his whānau/advisory group, helping them complete a tracking exercise for their learning journeys. He also checked in with each student before encouraging them to join in with a game to practise their te reo Māori. After advisory time, Ben had a non-contact period where he planned and prepared for his upcoming Wānanga Ako module.

After morning interval, Ben facilitated a Years 12/13 maths module with a colleague. This module focused on conducting a statistical experiment and working on efficient project management of multi-step projects. In this session, students conducted memory experiments that they had designed themselves, as part of assessment for an NCEA achievement standard. For the last block of the day, Ben co-taught a STEM module with a group of 60 Year 11 students. The module integrated mathematics and physics, with a focus on the past, present, and future of energy in the Waikato region.

A student's perspective

Casper (a pseudonym) is a Year 12 student. A typical day for her begins with a 45-minute block of advisory time with her whānau group, followed by three 90-minute Wānanga Ako courses, two before lunch and one in the afternoon. The day we visited was a Tuesday in Term 1.

Casper had selected Auaha/Toirau (creatives, communication, and digital media) as her Wānanga Ako. She began her day with her whānau/advisory group. There were 15 students from Years 11 to 13 in the group, each year group working at a different table. As it was "tracking Tuesday", students worked on their online learning journeys, using a "traffic light" system to show how they were feeling about each of their subjects. Casper had personalised the aspects of each subject that she wanted to comment on (interest, perseverance, self-management). She allocated a traffic-light colour to each aspect and added comments. Once she had completed this task, she worked on an assignment for one of her Wānanga Ako modules. Meanwhile, the whānau advisor checked in with individual students to make sure they had an accurate list of the standards they wanted to enrol in.

For the second block of the day, Drama L2/3, Casper crossed the school to a small, purpose-built theatre with banked seating, a flat performance area, and a large screen. Casper listened as the teacher explained the course assessment and what this meant for work going forward. The rest of the session focused on the conventions of drama, alternating between teacher explanation, group discussion, and physical drama activities including improvisation.

Casper's second learning module had a maths and science focus. She joined a group of approximately 60 students, working with two teachers. The students worked in groups: some took turns to run a memory experiment they had devised (for a Level 2 NCEA standard); others participated in the experiment. Casper's experiment involved testing the effects of positive reinforcement on recall. She split her group into two. One half left the space while the others participated in the experiment. Then the two groups swapped over. Casper then participated in two more experiments run by other students.

Casper spent her lunchtime helping her drama teacher run auditions for an upcoming drama production. After lunch, Casper's last block of the day was a Level 3 Digital Technology module. She worked independently on an assessment, creating three different storyboards for a short film, each storyboard exploring a different version of the story. She used digital software to create and notate the storyboards, checking in with her neighbours and teacher from time to time.

Ormiston Junior College

Ormiston Junior College
- State co-educational junior college Years 7–10
- Opened for students in 2017
- Modern Learning Environment (MLE)
- Roll 600+ (final roll capacity 1,130)*
- 62% Asian, 18% Pasifika, 6% Māori*
- High number of English language learners
- Part of Ormiston Campus, alongside Ormiston Primary School and Ormiston Senior College

Ormiston community
- Fast-growing new suburb in Flat Bush, southeast Auckland
- Population approximately 88,000
- Large proportions of Pasifika and Asian families

***** *As of 1 July 2020 (sourced from Education Counts website)*

Current timetable (2020)

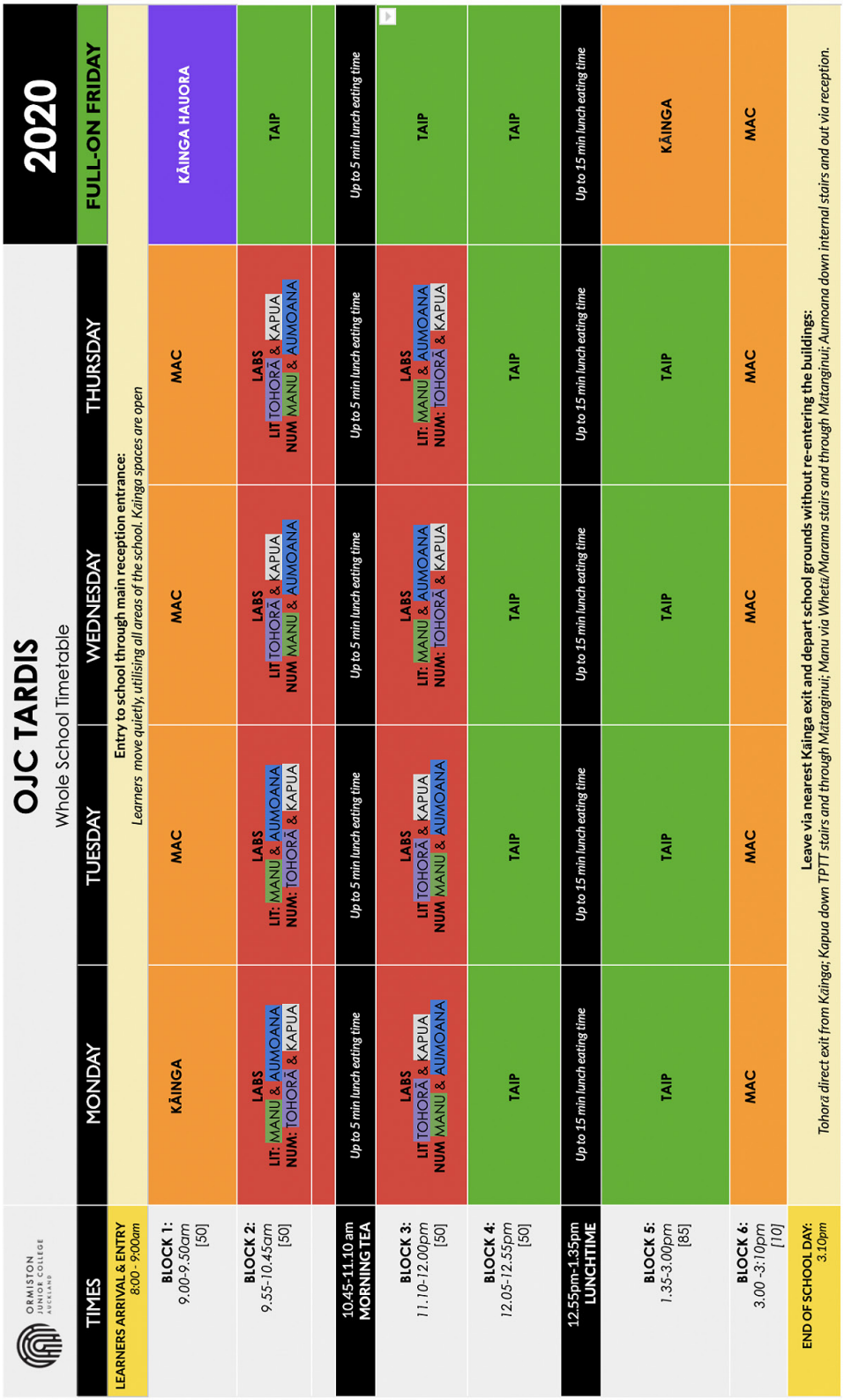
The timetable is known to Ormiston Junior College (OJC) staff and students as the "TARDIS". It is an expression and enactment of the school's vision, beliefs, and values, and has been designed to allow maximum flexibility in both time and space. Figure A.6 below shows the TARDIS for 2020.

The colours reflect how each block of time is spent.
- Grey—professional learning time for teachers
- Orange—kāinga/MAC (Mentor, Advisor, Coach) time
- Red—literacy and numeracy labs
- Green—TAIP time (Transdisciplinary Authentic Inquiry Projects)
- Purple—kāinga hauora time (physical movement/health).

Learners are not year-levelled for any part of their day (with the exception of some junior and senior banding for elements of health and sexuality education delivered within Hauora); all groups include learners from Years 7–10.

Most learning coaches (teachers) have a MAC group and also teach TAIP and LABs. The proportions vary to give them their total teaching time.

FIGURE A.6 **Ormiston Junior College Tardis (2021)**[1]



1 The Tardis has been updated for 2021. Kāinga Hauroa time is now timetabled alongside literacy and numeracy LABS. All students have 40 minutes of Hauora and 100 minutes of literacy and numeracy each day, Monday to Thursday.

Interesting idea 1: Mentor, Advisor, Coach (MAC) time

Purpose

MAC time is designed to:

- provide dedicated space and time for the development of key competencies
- provide a familiar, safe environment for students
- enable students to build strong, supportive relationships with a key adult and a small group of students.

Each student at OJC belongs to one of six kāinga. Kāinga are both large, open-plan physical spaces and organisational structures. Each kāinga includes MAC groups of 16–21 students. Students remain with their MAC group for the duration of their time at the school.

Each MAC group is led by a MAC learning coach—the mentor, advisor, and coach for the students in the group. The MAC learning coach is the primary contact and advocate for the MAC students and their families, helping them navigate their journey through OJC and find "best fit" pathways. All learning coaches, as well as middle and senior leaders, have a MAC group. This group of fellow MAC learners and learning coach becomes a "family" at school.

MAC sessions are deliberately timetabled first thing in the morning so that students go into a familiar environment with their MAC learning coaches on arriving at school. The focus is on the development of key competencies, particularly social and emotional wellbeing; relationships; and academic tool kits, including metacognition, and learning to learn.

Learners at OJC are expected and supported to manage themselves as young people preparing for the world of senior secondary education and beyond. MAC time is used to teach advanced learning skills, to track and monitor learners' progress and achievement, and to set and track personal learning goals—both short and longer term. Students also work on "golden threads" projects (GTPs). Golden threads are important ideas that weave through both life and learning. They include concepts such as connecting and linking, mindsets, reflection and metacognition, and identity and self-awareness.

Interesting idea 2: Literacy and numeracy labs

Purpose

Literacy and numeracy labs are designed to provide personalised programmes in reading, writing, and mathematics.

Four days a week, the second and third blocks of time are dedicated to literacy and numeracy. The sessions work on a high-trust model with options for student choice. During literacy and numeracy labs, learners might be involved in a wide range of activities, supported by learning coaches (teachers) working in teams. The activities include:

- participating in mini workshops for explicit teaching of a literacy or numeracy skill or concept (students choose which workshops they will go to)
- working independently; for example, on pieces of writing (students have choice over the text type and form of their writing)
- engaging in self-directed learning
- participating in small-group lessons for "just in time" learning
- taking part in short stand-up meetings
- conferring individually with learning coaches and peers to enhance their work
- sharing their work in small and large groups.

In literacy, students must cover a mix of visual, oral, and written language throughout the year and work on creating texts through a defined process of focusing, exploring, crafting, getting feedback, and publishing. The school uses the Reading Plus programme, and students are expected to complete some of this work at home.

In numeracy, the students follow the numeracy progressions and use e-asTTle to fill gaps in an inquiry-based approach. Learning coaches help to link mathematics to students' project work; for example, through planning and running workshops.

Students keep e-portfolios in both literacy and numeracy with evidence of their learning, self/peer/coach feedback, and reflections on next learning steps.

Learning coaches may be either a literacy coach, a numeracy coach, or a whānau ora coach—but not more than one (this allows for time "off the floor"). Regular professional development sessions help teachers to build up their knowledge of how to teach literacy or numeracy—especially for those who have come from secondary backgrounds (the staff is made up of about half and half primary and secondary teachers).

Interesting idea 3: Transdisciplinary authentic inquiry projects (TAIP)

TAIPs are designed to:

- provide authentic, meaningful contexts in which to cover learning areas of *NZC*
- drive learning by connecting learners' knowledge and interests with real-world contexts, people, and problems
- provide opportunities for learners to collaborate, develop critical thinking and problem-solving skills, and connect knowledge areas.

Half the OJC timetable is devoted to TAIPs. These are purposeful, authentic projects that are cross-curricular and transdisciplinary. Learners are given options within the TAIP curriculum to engage with each learning area in *NZC*. Each TAIP project covers a minimum of three learning areas and has authentic outcomes. Students' progress in the learning areas is monitored through the OJC digital badging system, which occurs at the end of each term. Students usually complete four TAIP projects each year.

The Learning Design team at OJC leads TAIP. Learning Designers are middle leaders who focus on curriculum across the school and integrating learning areas in TAIP. They also provide professional development for staff and lead the process of developing TAIP projects each year (see Table 1 below for a broad description of the TAIP process based on a big idea of "action and reaction").

In Term 4, the Learning Designers set the TAIP "big ideas" for the following year, informed by student feedback. Students, especially Year 10, are asked what they would like to see offered in TAIP, and what they would have liked to have done differently if they were able to stay at OJC for another year. This feedback is combined with Learning Designers' thoughts about what they have noticed students need, or what is coming up the following year. Examples of recent "big ideas" include "language for learning" and "intellect versus ignorance".

TABLE A.1: **Example of TAIP development process at Ormiston Junior College**

Example of TAIP process based on the big idea "Action and Reaction"					
Preparing for TAIP	• The Learning Design team introduces the big idea to the learning coaches. • Learning coaches come up with ideas for TAIP projects based on the big idea, during an "ideation session". • Learning coaches share ideas to find common interests, then form groups around specific projects. • Each group firms up their ideas for the project, pitches them to other learning coaches, and receives critical feedback. • The Learning Design team finalises the projects, making sure there is a range across learning areas. • Learning coaches pitch their projects to students, including the types of guided projects that might be available with each option.				
Small sample of projects based on Action and Reaction					
Project title	**Transdisciplinary Transformers**	**"I Am Moana" TAIP and School Production**	**Hack Busters**	**Moana Morsels**	**Bias and Helping Our Communities**
Main curriculum focus	Science/physics	Arts	IT/Science/ Technology	Technology	Social sciences
Project content	Machine-making: making a go-kart or making a steam engine	Planning and staging a performance: interplay between audience and the story	Proving or disproving hacks on the internet, organising fair tests, etc.	Planning and delivering catering for a performance: interplay between stakeholders, customer and chefs, and budget	Exploring different forms of bias and prejudice and ways to reduce them
TAIP in action					
Action steps	• Students choose their top three or four project options in each TAIP cycle, depending on their interests and the digital badges they need (each project has associated digital badges). They may be guided by their MAC. • Students are placed in one of their project options, depending on numbers wanting each choice and other relevant factors. • During the first 2 weeks of each TAIP, there may be explicit teaching and teacher-led sessions. • TAIP teachers set a series of provocations for students, to stimulate their thinking about the big idea and the type of project they want to do. • Students form their own groups—typically three students with a mix of year levels. • Students pitch that group to the learning coach, explaining why they think they should work together. • Each group comes up with and pitches ideas for a project to the learning coach or chooses a guided project. • There are three different types of group projects: – Explorer—students in this type of group have an idea, pitch it, and run with it. They work mostly independently. – Navigator—students in this type of group have an idea but need some support to work out their driving question, their essential questions, and their enquiry model. – Guided—students in this type of group need explicit support. They are handed a whole guided project. They still drive their own learning, but it is planned by the teacher. The enquiry is mapped out with its essential questions and options for final outcomes, with tasks set up in between to guide students through the enquiry process. • Once the idea is confirmed, the group designs their project, working out an inquiry process, the resources they will need, and an idea of their final outcome. • Students work on their project during TAIP time. • Three or more learning coaches work together for each TAIP. A proportion (but usually not all) of the learning coaches are on the floor at any one time. • During TAIP time, learning coaches have learning conversations with each group, provide explicit teaching, and track whether the group is on track or needs support. • From these conversations, the learning coaches work out what further learning and workshops are needed. These might be process workshops or workshops based on curriculum areas. • Workshops are offered to all students or to specific students. If specific expertise is needed, learning coaches might arrange for other teachers or even outside experts to run workshops. Workshops are sometimes offered several times a week so students can find a slot that fits with their other learning commitments.				

Interesting idea 4: Digital badges

Assessment at OJC is mostly via learning journeys and digital badging. The badges are aligned with the graduate profiles at Year 8 and Year 10 and with the OJC core values of Hauora, Relationships, Integrity, Innovation, Inspiration, and Excellence. Badges provide a basis for assessment of key competencies, skills, and dispositions, as well as curriculum knowledge within learning areas.

Students have information about the full range of badges and the criteria associated with them. They must get all their badges by the time they finish Year 8 and Year 10 (20–21 badges in total), but they can choose to complete the badges in any order using any of their learning. MAC coaches help ensure all areas are covered. The TAIP projects deliberately dive deep into curriculum learning areas and knowledge to support digital badges. Badges in hauora and relationships can be picked up during the MAC time. However, students must see connections across the whole OJC curriculum. They are working at an advanced level when they can link criteria from badges in all lines of the TARDIS.

Students self-assess and track their learning journey on a template, which learning coaches work through with them at different points in time either in TAIP, MAC, or Whanau Ora sessions. They set learning goals with their parents and learning coaches and plan how many badges to aim for. When they are ready to pitch for a badge, they present to peers from their TAIP group or MAC group and their learning coach. They are encouraged to bring evidence in support of their bid (for example, photos, videos, or written records from school or outside activities). Students also learn to give feedback as they take their turn on the assessment panel, using rubrics to peer-assess and self-assess.

Badges can be awarded at three levels:

- Emerging—I am developing an understanding in this context.
- Effective—I consistently show my understanding in more than one context.
- Exemplary—I consistently show a deeper understanding and can apply and share this in context (must demonstrate across learning areas and/or outside activities with evidence of transference of skills).

Learning journeys are an iteration of narrative assessment; they collect evidence of learning through students' personal reflections and evidence gathering. Digital badges and learning journeys work together. Learning journeys are a digital e-portfolio and are designed as a record of learning and to show learner progress, while digital badges show evidence of mastery of learning areas and levels within the graduate profile. Students complete three learning journeys a year, aligned with their TAIP projects. The learning journeys use a template that makes links to *NZC* and to the school principles. Students collect evidence of what they've been doing through the curriculum in the TAIP and put this into their learning journeys.

A teacher's perspective

Nina (a pseudonym) is in her third year of teaching, having completed her 2-year induction and mentoring programme at OJC. She applied for the job at Ormiston because the approach aligned with her values and her beliefs about education. Although she had not experienced anything similar in her training practicum, the role at OJC has exceeded her expectations of what teaching would be like. Nina enjoys the culture of the school, which fosters support, respect, and empathy for each other, whether as staff or as students.

Nina likes the flexibility of the TARDIS, the value placed on all types of learning, and the focus on connection and integration. She finds helping students make connections between their areas of learning—for example literacy and dance—fulfilling and creative.

Nina especially values her role as a MAC learning coach—she believes MAC gives both students and teachers a sense of connection and belonging, and a "home" at the school. It is where the core values are fully enacted. Being a MAC learning coach (mentor, advisor, coach) is central to understanding her role in other areas of the school. She enjoys seeing her MAC students grow and develop.

Nina finds TAIP challenging but enjoyable. Prior to coming to OJC she felt she was an expert in dance and drama, but TAIP has pushed her towards other areas (for example, literacy and inquiry learning). Nina feels that students benefit from the choices they have in TAIP and the range of subject expertise available to them from the different teachers in the TAIP teams. Keeping track of all the different student projects in a TAIP is demanding, but it is much easier to motivate students because they're able to choose to do something they love.

A normal day for Nina starts with an hour of MAC, followed by two LAB sessions (she is a "double" whānau ora coach, leading dance workshops across the school), a non-contact block, and a TAIP. On the day we visited, the TARDIS had "flexed" to accommodate a full day of digital badging, following the completion of the latest round of TAIP projects. Nina began her day with a shortened MAC session, then spent the rest of the day helping students with the badge-pitching process. She worked with two other learning coaches with a group of around 100 students who had recently completed a TAIP exploring how colour impacts emotion. Nina worked in a large open space with smaller areas which could be partitioned off in different ways for different purposes. Nina helped students pitch for digital badges, organised teams of student assessors, and encouraged others to complete their badge-pitching presentations or learning journeys. At the end of the day, Nina spent another half an hour with her MAC group, completing an activity they had begun in the morning.

A student's perspective

Leilani (a pseudonym) is a Year 9 student. She likes being a student at OJC, enjoying the freedom and transdisciplinary focus the school offers in her learning. She feels OJC is preparing her well for senior secondary and post-school learning, particularly through its emphasis on making connections across areas of learning and on bidding for badges. Leilani particularly likes MAC. MAC time provides an opportunity to share and learn with a small group that is always supportive. The MAC learning makes a big contribution to her overall learning journey.

A typical day for Leilani comprises a MAC session followed by two LABs and a WO and one TAIP session after lunch. On the day of our visit, the TARDIS had collapsed to enable badge-bidding to take place. Leilani's morning started with a shortened MAC session. She then gathered with the rest of her TAIP group to begin the badge-bidding process. Leilani is in the "accelerator" TAIP, which means she has the opportunity to link to a TAIP that has industry connections and will work on outcomes alongside an outside expert with her peers. Her project focused on developing a website/app from scratch to encourage teenagers to read. Her learning has been largely self-directed, with support from her learning coaches and external experts as needed.

Leilani spent the rest of the day in self-directed learning, occasionally asking her main TAIP coach for guidance. Because she is extending her badges into the next round of TAIP, she didn't need to bid this time. Instead, she used the time to work on her project presentation and on her learning journey. Leilani rejoined her MAC group for the last 30 minutes of the day.

Inglewood High School / Te Kura Tuarua o Kōhanga Moa

Inglewood High School
- State co-educational Years 9–13
- Opened 1957
- Traditional design for era
- Roll: 420, 17% Māori*

Inglewood community
- Inglewood, 16 km southeast of New Plymouth
- Population 3,500
- 14% Māori

***** *As of 1 July 2020 (sourced from Education Counts website)*

Stimulus for change

Under the previous timetable, subjects in the junior school were taught in a traditional way, with discrete lessons across five periods per day. Different subjects were allocated different numbers of periods, with the core subjects (English, mathematics, science, and social studies) having more than the others. Three core subjects (mathematics, English, and science) were streamed, with one class at Year 9 and Year 10 assigned as the "top" class. The senior leadership team was keen to remodel this traditional approach for their junior students, with the purpose of increasing engagement, achievement, and student choice. While minimal changes have been made to the structure of the timetable (see Figure A.7 below), the way the blocks of time are used has altered, reflecting changed ways of working.

Timetable in 2020

FIGURE A.7 **Inglewood High School junior timetable (2020)**

	Monday	Tuesday–Friday
Period 1	8.50–9.50	8.50–9.50
Period 2	9.50–10.50	9.50–10.50
Form time	–	10.50–11.05
Interval	10.50–11.15	11.05–11.30
Period 3	11.15–12.10	11.30–12.30
Period 4	12.10–1.05	12.30–1.30
Assembly	1.05–1.30	–
Lunch	1.30–2.10	1.30–2.05
Period 5	2.10–3.10	2.10–3.10

Interesting idea 1: Modular learning in the junior school

Purpose

The move to modular learning was designed to:

- increase learner agency
- increase student engagement in class and across the curriculum
- increase student achievement
- give teachers more freedom to teach to their interests within and across learning areas.

Design

In 2020, the school moved to replace traditional subject lessons with "modules". In the modules, learning is centred around a specific context while maintaining a focus on a particular learning area. For example, in the module "Crime, mystery and the unexplained", the focus is on the English/literacy learning area through the context of famous crimes and unexplained events. Students learn about forensics, crime scene investigations, criminal psychology, and scientific explanations. A few modules are cross-curricular; for example, the module "A sustainable future!" explores the concept of sustainability from a scientific and technological point of view. All modules are taught by a single teacher, although teachers may bring in the expertise of other staff when required (for example, in cross-curricular modules). Many of the modules are composite, with Year 9 and Year 10 students taught together. There is no streaming.

As stated above, the introduction of modules has required minimal change to the structure of the junior timetable. The school day is still divided into four 1-hour blocks and one 40-minute block. Each module is allocated eight blocks per fortnight, with one double block every fortnight. This decision was made to ensure students have equitable access to all learning areas and modules.

The year is now divided into two semesters, with each module running for one semester. Students select six modules each semester, from a list of around 90 in the Junior Curriculum Module booklet (see Figure A.8 below for examples of module descriptions—modules will only run if there is enough student take-up). The goal is for students to complete 24 over their 2 years in the junior school. Module selection takes place in November, when students choose all their modules for the following year. Compulsory requirements (for example, three English/literacy and three mathematics/statistics/numeracy modules over the 2 years) ensure that students gain knowledge and skills across key learning areas while still having an element of choice. All junior students are also required to participate in a compulsory Hauora programme for 1 hour each week, which focuses on study skills as well as health and wellbeing.

The process of developing new modules is informal. Teachers are encouraged to create modules about subjects and topics they are interested in. They discuss their ideas with the relevant learning area teachers to ensure there is sufficient curriculum coverage across the junior school without doubling up on content or skills offered by another module. Teachers are responsible for developing the learning outcomes, as well as what and how student learning is assessed. The school has developed a module planning template to support teachers in this planning process. Once the planning is complete, a member of the senior leadership team reviews the module before adding it to the Junior Curriculum Module booklet.

A change in pedagogy has been a key focus of the move to modular learning. Teachers have taken part in PLD on designing modules and on teaching and learning strategies to support inquiry, student-centred learning, and student choice and agency. The long-term goal is for modules to provide co-constructed and co-designed learning opportunities for students.

FIGURE A.8 **Examples of module descriptions in the Inglewood Junior Curriculum Module booklet (2021)**

Rhythm in our Bones (ENGRIB)

Year Level	10
What's it all about?	Why do people like music so much - or even need it? In what ways, and to what extent, does music affect us all? Whether, in this day in age of celebrity, talent is still important for musical stardom? How are societal changes affecting the music industry?
What equipment do I need?	Headphones, 1B8 exercise book, Chromebook recommended
Who can I see?	Mrs Hayes

Survival and Resilience (ENGSAR)

Year Level	9
What's it all about?	What tools do animals and humankind have to enable them to survive extreme conditions? How do people bounce back from hardship and setbacks? Explore tales of survival, resilience and hope through reading and viewing a range of fiction and non-fiction texts. Present your own animation and create your own story of survival and resilience.
What equipment do I need?	Headphones, 1B8 exercise book, Chromebook recommended
Who can I see?	Mrs Young

Review

The school is keen to extend the module approach to the senior school. This will occur once *NZC* and NCEA reviews are completed. Staff will then receive professional development on the new assessment standards and matrices, and consider how this learning can be delivered through modules. The structure of the senior modules is currently being developed.

Interesting idea 2: Year 13 work-at-home Wednesdays

In 2014, the senior leadership team decided to allow Year 13 students to work from home each Wednesday rather than having four 1-hour study periods across the week. The purpose of this change was to give students greater autonomy in managing their study time and to create more flexibility in the timetable for students attending courses off site.

Teachers, students, and whānau have expressed mixed responses to this change. Students' ability and motivation to manage their time off site varies. However, condensing the Year 13 study leave into one day has resulted in fewer disruptions to in-school learning. It has also made off-site learning more attractive to students, as they don't have to miss lessons to attend an external course.

A teacher's perspective

Adam (a pseudonym) is an experienced teacher who has taught overseas as well as in Aotearoa. He has been teaching at Inglewood High School since 2019. Adam has a full teaching load and works with both junior and senior students.

Adam enjoys the modular approach in the junior school as it enables him to respond more easily to the interests of his students. Modules also offer variety and flexibility and allow for greater student ownership of learning. In the modules he teaches, Adam has noticed that students seem more engaged in their learning. Having mixed-year-group modules (Years 9 and 10) has meant that students interact with a more diverse group, which has had a positive impact on student motivation and maturity. He believes the semester length generally provides enough learning time for the contexts he delivers.

Adam has noticed an increase in his workload because of the change to the modular system, particularly during 2020 when modules were first introduced. Most of this increased workload relates to ensuring his teaching is appropriately differentiated, as classes are no longer streamed. Modules that are in their first year of running also require more time, as the planning and resources are developed from scratch.

A typical day for Adam involves a mixture of junior school modules and senior classes. On the day we visited, Adam taught two Years 9/10 modules ("Don't Stop Moving!" and "Adventure Taranaki") and a compulsory Year 10 Hauora module. He also had form time with his form group, and two non-contact periods, where he worked on planning and assessments and followed up with individual students. Adam predominantly teaches in one learning area, Health and Physical Education, although in 2020 he taught a module in a different learning area due to staffing issues.

A student's perspective

Rachel (a pseudonym) is a Year 10 student. A typical day for her involves five 1-hour module sessions, four in the morning and one after lunch. Most of these modules are combined Years 9/10. There is also a 15-minute block of form time before morning interval.

Something Rachel enjoys about the modules is being able to interact with a wide range of students, from both Years 9 and 10. She also enjoys the choice that the module system allows. For example, she doesn't really like digital technology, so this year she chose a technology module that focused on cookery instead. She really enjoys English, and likes being able to have a double module for this every other week where she can get immersed in the learning. Being able to learn about budgeting in a social sciences module has been particularly useful. Rachel wants to be a secondary school teacher and was able to research pay scales and use them in her budgeting exercise.

On the day we visited, Rachel began her day with a combined Years 9/10 PE module, "Don't Stop Moving!". This module encourages students to train for events such as adventure racing, trail runs, and the Tough Guy/Gal Challenge. Today's session, out on the school field, involved two team activities. Students worked in groups of three or four to complete challenges that involved bike-handling skills, team strategy, and endurance. The next session was Hauora, a compulsory health and wellbeing module. The Hauora module activities are delivered online and supported by class and group discussion. During this period, Rachel worked through activities on her Chromebook, guided and supported by the teacher. After this, Rachel joined her home group for form time.

After morning interval, Rachel moved to the wharenui for her next module, a double session of Tikanga o Taranaki: Tāku kura. This module is also a combined Years 9/10 and the session today involved language activities; waiata; and preparing, cooking, and serving kai. The session extended over lunch time as the students enjoyed the food they had prepared. Rachel's last module of the day had a maths/statistics/numeracy focus: "Maths on the Job". The module helps students improve and practise their numeracy skills and learn how numeracy is used in the trades. Today, Rachel was involved in whole-class, small-group, and individual activities to calculate the volume of regular and irregular shapes.

Manawatū College

Manawatū College, Foxton
- State co-educational Years 9–13
- Opened 1961
- Traditional design for era
- Roll: 280, 50% Māori*

Foxton community
- Small town in Manawatū–Whanganui, 30 km southwest of Palmerston North and 18 km north of Levin
- Population approximately 3,300
- 35% Māori

***** *As of 1 July 2020 (sourced from Education Counts website)*

Note: Changes at Manawatū College were introduced in 2020, as described below. However, in 2021, school leadership decided to revert to the previous timetable. For this reason, it was not possible for us to gather data to construct stories about teacher and student perspectives because the field work of shadowing a teacher and a student through their day was undertaken in 2021.

Stimulus for change

Prior to the change, the senior school timetable at Manawatū College operated on a traditional five-line model. Students chose one subject in each line. As choices were limited, some students had to take classes they weren't interested in, and th eir engagement in these classes was low. The stimulus for change at the school came from teaching staff, who were keen to try new approaches in an effort to increase student engagement, retain more subject choices, and create individualised pathways.

Interesting idea 1: Instructional and mastery sessions in the senior school[2]

Purpose

The move to instructional and mastery sessions for the 2020 school year was designed to:
- increase student engagement
- give students choice about what and when they study
- allow the flexibility to create individualised student pathways
- retain more subjects in a small school setting
- help students develop as independent, self-directed learners.

2 This idea is described as it was originally designed. The approach was implemented in a slightly modified form for the first time in 2020. For a number of reasons, the school returned to the previous traditional timetable in 2021.

Design

Under this model, senior school subjects at Manawatū College were delivered via a mix of instructional and mastery sessions, rather than in discrete subject periods. Senior students selected between three and six subjects. For each subject, they had to attend one instructional and a minimum of three mastery sessions each week. As instructional and mastery sessions were offered multiple times across the week, students could build their timetable to suit their interests, needs, and learning styles. For example, students might choose fewer subjects and take more mastery sessions, or a wider spread of subjects with fewer masteries. This meant they might be with a different group of people in each mastery session. The flexibility also meant that students could be out of school for a day (for example, at the local polytechnic) without compromising their learning in other subjects.

Instructional sessions

Instructional sessions were 50- or 100-minute blocks of timetabled time. The intention for instructional sessions was to provide students with new knowledge and skills, directed and led by the teacher. Each subject team decided whether they would like two 50-minute blocks or one 100-minute block for their sessions. In instructional sessions, the teacher worked with a single NCEA level (students at either NCEA Levels 1, 2, or 3).

Mastery sessions

In mastery sessions, students worked at their own level and their learning was largely self-directed. The teacher was available to check on progress and provide guidance and instruction where needed.

Mastery sessions were mixed-level, with students at NCEA Levels 1, 2, and 3 and from Years 11–13. Students picked from a range of 50-minute mastery sessions across the week, based on their learning needs and other timetable commitments. In some subjects, students could combine mastery periods to create a longer session; for example, music students could book themselves in for two or three back-to-back sessions to allow time for a band practice. Other students might decide they learnt better in shorter periods of 50 minutes, and so select only individual 50-minute mastery sessions.

Typically, teachers had up to four or five instructional periods and 17 or 18 mastery periods each week.

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