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Experiences of curriculum integration: the challenges in practice between learner relationships, agency, and knowledge

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ABSTRACT

This paper reports on the multiple ways teachers interpreted and implemented curriculum integration (CI) and considers the factors which contributed to the nature and degree of integration success in programmes in a number of case study secondary schools. This qualitative study examines the experiences of teachers in Aotearoa New Zealand who have implemented Curriculum Integration (CI) programmes for students aged 13–14. The shift away from single-subject specialisations prompts a reconfiguration of how teachers integrate, align, and engage with the curriculum. By examining the complex factors affecting CI in a range of school contexts, where teachers contribute to sustained collaborations, we identify examples from the research that illustrate teaching realities, and frame possibilities of future action. Some teachers utilised thematic contexts, others favoured student led, and co-construction processes. All, however, agreed that a balance was needed between supporting learner relationships and student agency and ensuring that students developed important knowledge. The paper offers a narrative of ways the integrated programmes have been developed, implemented and reflected upon within a secondary curriculum context.

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Introduction

An integrated curriculum has not been a strong tradition within secondary schools in Aotearoa New Zealand. Since secondary teachers are educated as subject specialists, they have traditionally been less inclined to embrace the aims of Curriculum Integration (CI), in contrast to primary teachers, who are educated as generalists (Dowden, 2014). However, since the promotion of CI in the New Zealand Curriculum (Ministry of Education, 2007, p. 16) the impetus to this has resulted in a growing number of schools who have implemented integrated junior programmes for students aged 13–14-year-olds (Bonne & MacDonald, 2019). Their rationale for using a CI approach is that they believe it can enhance adolescents' cognitive and substantive engagement and assist in developing the capabilities required of a future workforce (Riddle et al., 2024; Salmela-Aro et al.,

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2021), and towards the implications to meet economic and creative challenges (Chappell, 2022; Sardar, 2010). One motivation in contemporary curriculum design is the emphasis on engaging learners in authentic contexts, situations that are meaningful, relevant, and connected to their lived experiences (Drake & Reid, 2019). These contexts provide a bridge between classroom learning and the broader world, aiming to foster deeper engagement and understanding. However, it is important to distinguish authentic contexts from real-world problems. While authentic contexts may reflect familiar or relatable scenarios, real-world problems are often complex, messy, and interdisciplinary in nature. They rarely conform to the boundaries of specific academic subjects and instead demand integrated thinking and collaboration across multiple domains. As McDowall (2021, p. 22) notes, much of the work in the out-of-school world increasingly takes place in the 'spaces between' traditional disciplines, highlighting the need for educational approaches that prepare learners to navigate and solve such multifaceted challenges. Learners may require further opportunities to draw on knowledge from multiple learning areas to address complex, real world problems (Craft, 2000). Conversely, the ability to integrate diverse perspectives must be complemented by the development of specialised knowledge, which provides the depth necessary for sophisticated problem solving (Young & Muller, 2010). Ongoing issues in the sector include rising truancy rates and disengagement among high school students. Furthermore, collecting school attendance data alone can be short-sighted (Mills et al., 2018) unless it is paired with an exploration of alternative learning programmes designed to better engage young people. However, it is not clear whether CI will allow the integrity of individual subjects to be maintained (McPhail, 2018) and the mastery of specific disciplinary knowledge required for those students who wish to go on to study at a higher level (Priestley & Sinnema, 2014).

Our research purpose was to gain understanding of what CI looks like in a secondary context in Aotearoa New Zealand, and how subject-specialist high school teachers are responding to the concept of CI. As initial teacher educators with a responsibility to prepare pre-service teachers in schools with integrated programmes, we considered it important to explore the nature of CI in our partner schools. We carried out a series of initial workshops in 2022 (Ministry of Education, 2022) for teachers in the region of the central North Island of Aotearoa New Zealand. The purpose was to invite discussion from the teachers, to hear their stories of what was happening in their schools and further develop our professional liaison with them. The teachers were from schools partnered with our professional practice programme and who were involved in the engagement and teaching of CI in their junior programmes. Some teachers were from area schools where students from ages 5 to 18 years attend, these schools are remotely located, with smaller classes, and in rural or coastal surroundings, and with integrated curriculum junior programmes from the early years up to 14 years old. Other participants came from newly built (or renovated, often in the past 3 years) secondary schools where students from ages 13–18 years attend, usually these classrooms were termed as modern learning environments. Modern learning environments are generally characterised in Aotearoa New Zealand as flexible physical environments, and often feature open-plan layouts, fewer internal walls, and adaptable learning commons that can be reconfigured to suit a range of activities. In these schools, CI was typically implemented where learning spaces were more expansive and designed to accommodate larger class sizes (see Table 1 for further details on type of classroom).

Table 1. Characteristics of integrated programmes.

School and teachers	Subjects integrated programme	Nature of integration and duration. Type of classroom ^a	Topics studied (examples)	Perceived benefits & challenges ^b
Ruru College (Years 9–13). Teachers: Sally, Don, Freyah & Jill.	English, Mathematics, Science, Visual Art, Drama, Social studies	Shared class: Whole year. 2	Earthquakes and Tsunamis	1, 2, 3, 4, 5, 6
Kākāpō High School (Years 9–13). Teachers: Sophia, Josh & Sam.	English, Mathematics, Technology, Science, Social Studies	Shared class: Whole year. 1	Innovation of products	1, 2, 4, 5, 6
Tui College (Years 9–13) Teachers: Jeanne & Jenny	Drama, Social Studies, Science, English, Technology, Mathematics	Shared class: whole year. 1	Papatuanuku (Earth Mother figure)	1, 2, 3, 4, 6
Kiwi Area school (Year 1–13). Teacher: Rob	Mathematics, Social Studies, English, Science, Technology	Whole year. 1	Coastal studies	2, 3, 4, 7
Toroa Area School (Years 1–13). Teachers: Watene, Aroha, Georgia, Brooke & Anna	Science, Drama, Health, Social Studies	Shared integrative programme (13 weeks) and with core specialist subjects. 1	Space and place	1, 2, 3, 4, 5, 6, 7
Tauhou High School (Years 9–13). Teachers: Manu, Tim, Denyse & Jo	Science, Technology, Social Studies, Health	Shared integrative programme (12 weeks) and with core specialist subjects. 2	Conflict and peace, social and political issues	1, 2, 3, 4, 5
Kororā College (Years 9–13). Teachers Lily, Lola & Frank.	Mathematics, Science, Social Studies, Environment	Shared integrative programme (10 weeks) and with core specialist subjects. 2	Futures-designing and researching different futures	1, 2, 3, 4, 5, 6, 7
Riroriro High School (Years 9–13). Teacher: Josy	Mathematics, Science, Economics, Social Studies, Health	Shared integrative programme (whole year) and with core specialist subjects. 1	Plastics and paper-Recycling and reusing	1, 2, 3, 4, 7

^a1-Single cell classroom; 2 = Modern learning environment classroom.

^b1 = Supporting learner relationships; 2 = learner agency; 3 = Locating/mapping specific content knowledge; 4 = Authentic real-world learning; 5 = Connections/links between subjects 6 = Camaraderie among teachers; 7 = Community/family involvement.

Following on from the workshops, we subsequently visited the teachers in their associated schools, observed them in classrooms, and carried out interviews in a reflective phase of the research. This paper summarises key findings carried out examining the perceptions and practices of teachers ($n = 23$) from eight schools who have implemented a CI programme. The paper begins with a description of the multiple ways CI is defined and why it has emerged as a possible approach for curriculum design, and a subsequent section on the methods used, data analysis and how interpretation was undertaken. The following section on findings provides a means to present various teacher narratives with both distinct and overlapping elements. Through this interlinking process of three main themes, we have made connections, consulted with a range of participants, collected teacher voice, and shared our ideas. The discussion draws together the identified themes of: support for learner relationships; agency; and locating knowledge. The paper concludes with ideas of further action in CI development in secondary environments.

Curriculum integration

Historically, Curriculum Integration (CI) has remained a somewhat ambiguous and contested concept in education (Dowden, 2014; Fraser, 2000). Researchers, schools, and teachers interpret CI in diverse ways (Pluim et al., 2021). Some adopt thematic units (Dowden, 2012), drawing on multidisciplinary ideas across subjects, while others implement a blended curriculum in which students negotiate inquiries based on issues of concern (Fraser, 2000). As a result, a wide range of practices has emerged, and misconceptions have occasionally developed throughout its evolution. Beane (1997) offers a comprehensive account of CI's development since the early 1900s, highlighting influences from Dewey (1916) and other progressive educators. He defines CI as an approach that integrates teaching across traditional subject or disciplinary boundaries. Drake and Reid (2019) argue that authentic CI methods extend beyond thematic approaches, which typically revolve around a central topic. In contrast, more advanced integration methods are issue-based, requiring identification, discussion, and negotiation between teachers and students (Fraser, 2000). This process fosters active engagement and participation in the classroom, with the learning journey co-constructed by both teachers and students (Zajda, 2021). Arrowsmith et al. (2015) expand on this rationale by describing a continuum of integration modes, multidisciplinary, interdisciplinary, and transdisciplinary, each representing different levels of knowledge interconnection across disciplines. Similarly, Vasquez et al. (2013) outline a continuum of increasing integration, ranging from disciplinary to transdisciplinary approaches.

The literature on CI emphasises developments in learning at both the classroom and programme levels, drawing from a range of theoretical perspectives: social-constructivist, relational (Bell, 2011), cultural (Bishop & Glynn, 1999; Fraser & Paraha, 2002), and epistemological (Fraser, 2000; Gilbert, 2018; Scardamalia & Bereiter, 2010). The constructivist ideal is situated within a socially co-constructed learning context (Watkins et al., 2007), while cultural perspectives foreground power relationships, democracy, agency, and critical pedagogy (Bishop & Glynn, 1999; Macfarlane, 2004).

Epistemic understandings challenge universalising assumptions within constructivist interpretations, cautioning against the uncritical generalisation of CI practices (Gilbert, 2018). CI is thus complex and interpretative, shaped by the social and personal contexts of learners' experiences (Whyte et al., 2012). Epistemological theories associated with CI suggest that it involves more than constructivist pedagogy alone; rather, it aims to foster intellectual development through active apprenticeship in a knowledge-building process (Scardamalia & Bereiter, 2010).

Research methods

To understand teachers' conceptions and curriculum practices within the demands of their professional contexts, this study undertook an in-depth examination of their curriculum design capabilities and experiences. A qualitative case study design was adopted, specifically employing an instrumental, bounded case study approach (Stake, 2005). Stake distinguishes between typical and instrumental case studies: the former focuses on cases with inherent interest, while the latter involves selecting cases to inform an external interest (Stake, 2005, p. 445). This study focused on a case involving 23

teachers actively engaged in teaching an integrated curriculum programme at the Year 9 level (ages 13–14). The case was bounded by their experiences working with integrated programmes shaped by both local school curricula and the broader New Zealand Curriculum (Ministry of Education, 2007). The study draws on transcribed and thematically interpreted interview data, alongside journal notes describing planning and topic design. At the time of data collection, eight state secondary schools from the Central North Island of Aotearoa New Zealand participated. Four schools offered core specialist subjects in mathematics, science, and English, alongside an integrated curriculum programme. Typically co-taught by teachers, these programmes were delivered in blocks and designed to complement the core subjects. The remaining four schools adopted a Curriculum Integration (CI) programme that merged disciplines including English, mathematics, social studies, science, and technology. Delivered as a distinct CI subject, these programmes usually extended across the full academic year, allowing for increased instructional time.

The study was guided by the following overall research question: What is the nature of teachers' conceptions and practices of integrated curriculum within their schools? Ethical approval for this study was obtained from the university ethics committee prior to data collection. All participants were provided with detailed information about the study's aims, procedures, and their rights, including the right to withdraw at any time without consequence. Informed consent was obtained from all participants. To ensure confidentiality and anonymity, pseudonyms were assigned to all schools and teachers. Data were securely stored and only accessible to the research team. The selection of participant quotes included in this article was made with care to preserve anonymity while authentically representing teacher voice.

Data analysis

The study aimed to identify emerging trends (Schratz, 2020) from:

- Audio recordings of teacher meetings
- Researcher's observational notes on classroom activities
- Teacher journals documenting lessons over a 10-week timeframe
- Seventeen semi-structured teacher interviews conducted during July–August and November 2022 (each lasting 45–70 minutes)

To capture individual teacher voices, a framework of questions was constructed around key areas of inquiry. Teachers were asked about their roles in the school, collaboration with colleagues, and how they enacted integration in their classrooms. Interview data were transcribed and analysed using NVivo, a qualitative data analysis software. A line-by-line coding approach was employed to identify themes. The analysis drew on grounded and mixed qualitative techniques (Bryman, 2016; Lichtman, 2023). Researchers collaboratively developed a sub-coding protocol to ensure consistency between audio recordings and journal entries. Sub-coding and associated interview questions were analysed using inductive coding (Cruickshank, 2012; Hennink et al., 2011) to construct a thematic framework. In the final stage of analysis, a cross-case comparison was undertaken to explore participants' perceptions of curriculum

integration across multiple school contexts. This comparative approach functioned as a form of methodological triangulation, strengthening the validity of emergent categories and themes (Chung et al., 2019; Lam et al., 2013). Variations in interview responses were instrumental in shaping a matrix that systematically captured teachers' experiences with implementing integrated curricula. Table 1 illustrates elements of this matrix, including the specific topics studied and the associated sub-codes that reflect teacher perceived benefits and challenges. These criteria enabled a nuanced understanding of how integration was enacted and experienced differently across cases. The matrix served not only as a tool for organising data but also as a lens through which commonalities and divergences in teacher narratives could be examined. This structured analysis provided a rich account of the complexity and diversity inherent in curriculum integration practices, revealing patterns of curriculum design, contextual constraints, and professional learning.

The overall analysis revealed three overarching themes that illuminate key aspects of student learning within integrated curriculum approaches. First, teachers underscored the importance of fostering strong relational dynamics, both between teachers and students, and among students themselves. These relationships were seen as foundational to creating inclusive and supportive learning environments that enhance student engagement, collaboration, and emotional safety. Compared to traditional single-subject teaching, integrated approaches were perceived to rely more heavily on these interpersonal connections to facilitate meaningful learning experiences. Second, the theme of learner agency emerged as central to student development. Participants emphasised the need to cultivate competencies such as self-management, decision-making, and active participation. By intentionally supporting student autonomy, the teachers enabled the learners to take ownership of their learning, fostering intrinsic motivation and deeper cognitive engagement. This empowerment was particularly vital in the integrated settings, where students navigated interdisciplinary tasks. Third, teachers highlighted the importance of identifying and explicitly teaching content knowledge. This involved mapping subject-specific concepts and embedding them within broader thematic or issue-based frameworks. Together, these themes point to a holistic vision of integrated learning, one that values relationships, agency, and conceptual depth. The following three sections present the key findings that emerged from the analysis, offering insights into the teachers' experiences, perceived outcomes, and contextual influences shaping curriculum integration.

Supporting learner relationships

The teachers in this study had interpreted and implemented CI in many ways. Our study's research question concerned how teachers conceptualise the nature of the integration and enacted integrated curriculum in their schools. Like Lam et al. (2013), we observed that the teachers' conceptions and practice of integration do not fit neatly into the models of CI identified in the literature. Most teachers had learned about CI through professional learning workshops or short courses; thus, opportunities to explore models of CI were limited. Furthermore, we found the teacher's conceptions of integration were linked closely with the characteristics of the programmes offered in their schools. Our purpose was to identify specific priorities regarding the nature of the CI. One key theme

that emerged was the recognition by teachers of the need to strengthen teacher-student relationships as a foundation for CI.

A challenge for the teachers was how to balance the need to assign different curriculum areas to topics, covering the curriculum content so to speak, but with a desire to support socio-interactions. Strong, positive interpersonal relationships were identified as an important determinant of successful integration. A representative example of supporting learner relationships comes from Sophia, who taught alongside two other teachers (see [Table 1](#) for details). The class comprised 28 students, and she shares her reflections on the programme.

Curriculum integration has provided opportunities for the students to study topics that they find interesting, and that we help them engage in something that's relevant to their life. It's more on the relationships we build, listening and helping them explore something they can see the point of. To really focus on the quality of the relationships between them, and us, what they want to learn about, and that our role as teachers is to be thoughtful and insightful about how we interact with the students. This can't be hurried, because what can happen are where poor relationships develop and pre-conceived outcomes can control the integrative nature of the topic. That's an important aspect to the integrative programme, that it's flexible for this to happen, time to be genuinely with the students in their learning and not just rushing. (Sophia)

Sophia, in considering the inter-relationships in her class, articulates the desire to support student relationships in terms of student-student and teacher-student. Her role as co-ordinator of the integrated curriculum programme in advocating for quality student learning is complex, both co-constructive and relational. In the process of her teaching, she rationalises the importance of teacher-student relational practice which provides the context for the teaching of a range of cognitive, social, personal, and behavioural learning opportunities. Her reference to ensuring there are opportunities for enhanced student advocacy, and that these should not be hurried actions, can also be viewed as examples that create an environment which is relationship centred. The example above aligns with Bell's account of teaching as a relational connectedness:

The student-teacher relationship may be seen as teachers in relational connectedness with students. To use the term 'relational connectedness' is to highlight the inherent and integral nature of the connectedness in the relationship, rather than as a 'meeting space' between the teacher and student. (2011, p. 14)

Many teachers in the study underscored the significance of fostering positive learner relationships and enhancing students' social competence through peer interactions. They noted that Curriculum Integration (CI), in contrast to single-subject teaching, demanded more deliberately structured and facilitated cooperative learning activities. Teachers observed encouraging developments in student-student interactions, which they attributed to the interdisciplinary nature of CI topics. These topics enabled students to engage with relevant, real-world issues and supported the development of key competencies such as self-management and socio-participation. A feature of the CI classrooms was the presence of multiple teachers, sometimes up to three, working collaboratively within the same learning space. Teachers noted that the structure facilitated greater flexibility in delivering curriculum content, enabling greater responsive teaching for student groups

which required additional support. However, it also presented challenges, particularly in coordinating larger groups and fostering collective accountability for student achievement. Despite these complexities, the multi-teacher model offered students access to a broader range of teaching styles, viewpoints, and disciplinary knowledge.

Teachers noticed that students often built relationships with multiple teachers, although many appeared to favour connecting with one particular teacher with whom they felt most comfortable. Teachers also emphasised the value of dedicating time within lessons to inquire into students' ideas. Just over three-quarters of the teachers reported stronger relational connectedness among students in CI settings, attributing this to the increased use of cooperative learning strategies. These practices appeared to foster a more inclusive and socially dynamic classroom culture, where students were encouraged to collaborate, communicate, and build meaningful relationships with both peers and teachers. A noteworthy example of developing learner discussion, drawing ideas from community and family experiences comes from Lily. She teaches with two other teachers, and it was the second year where an integrated curriculum subject had been developed for Year 9 students. This approach provided structured opportunities for students to engage in greater dialogue, encouraging them to share perspectives.

I've noticed changes in students' behaviour since we've started the integrated inquiries, there's better focus from students, there's more 'buy-in' from them. Teaching maths in the past, it was mainly me doing the talking, but now with social studies there is more talk from the students, they draw on their experiences at home, in sport ... (Lily)

What is difficult to ascertain is the extent to which the increased relational connectedness teachers perceived might be attributed to the other pedagogies being trialled versus the extent to which it might be attributed to the actual integration of the learning areas. Interestingly, over two-thirds of the teachers in the study signalled that the camaraderie between teachers working together in CI had improved. Most teachers discussed that through CI, they experienced less isolation professionally; it posed a greater opportunity to work with other teachers from other curriculum areas; and increased opportunity to explore different teaching strategies to support learners who were academically challenged, because they felt they could more easily discuss these with co-teachers. Allocating a pair of or three teachers to a class of students was common practice in the schools, where different subject specialists collaborated. This was also highlighted as an effective method in terms of timetabling, however a sizeable majority found that planning took additional time than single subject teaching. Jeanne teaches with one other teacher, and the programme planning has had input from other teachers and school leadership. She has expertise in social studies and a music background; her colleague is a science teacher at the school. There were 35 students in the class, and Jeanne comments on her priorities of the programme which include planning and design:

For me, emphasis in the integrated programme is careful planning. We've got to get this right, so that our students can work well together. Each unit uses a topic, such as Papatūānuku [the earth mother figure], this is a mix of Earth science, social studies which includes the local Māori history of the land, and drama. The students learn about the topic through different cultural perspectives; they take part in role plays. (Jeanne)

Jeanne's comment illustrates priority of the design of the programme in the way that the discourse centres on planning through co-construction between her colleagues and some

input from students. It is noted that the intervention of the CI has stimulated the professional liaison between the teachers, a process of increased teacher dialogue which was possibly unanticipated. Processes associated with using teacher voice to construct plans (Cook- Sather, 2014) can enable teachers to share responsibility for their own and others individual learning and provide possibilities for engagement in ongoing professional negotiation. Jeanne also emphasises how topics are developed, using a multi-disciplinary approach (Drake & Reid, 2019; Kneen et al., 2020), where several disciplines are used to address a topic. She refers to topics which incorporate a mixture of separate curriculum areas addressing a theme. While Jeanne talks of being responsive to ideas from students, it appears that emphasis has been placed more on teacher planning of subject-centred curriculum (see Dowden, 2012) rather than a more radical view involving student-centred curriculum (Watkins, 2017), where students actively explore questions and co-design their learning.

Teachers in support of learner agency

Learner agency is where students are engaged in active participation, exploration and research demonstrating command of personal, social, and discursive resources (Lodge, 2005; Pettersen et al., 2023). Learner agency discourse is contextualised where classroom social structures promote interdependence, where students can make decisions, and are capable of self-regulation while developing personal meaning (Charteris & Smardon, 2021). It can be observed as a straightforward conception of the learner concerned with the construction of meaning through interaction and collaboration with others. Hogg et al. (2021) argue the power relationships inherent in classrooms can appear to be about learner autonomy yet reinforce teacher-student inequalities. However, learner agency is central to the New Zealand Curriculum key competencies (Ministry of Education, 2007, p. 12, 13) and often the teachers in this study spoke of these specific competencies as commonly involved across the learning areas. At many of the schools, teachers chose to focus on the competencies when evaluating integrated units of work, they most often did this separately from assessing content knowledge in the separate learning areas. The teachers noted the challenges of evaluation in capturing shifts in student agency and participation to the learning. They said it was easy to appreciate common competencies that were being used by the students, they could identify them, they could also visibly see them in daily practice in the classroom, however, it was much harder to measure them in a more formal manner. Evaluating competencies such as relating to others and managing self typically focussed on self-assessment and student reflection. One teacher, Josy, articulates an approach of developing evaluations in favour of student agency and learner reflection. She teaches a Year 9 integrated curriculum programme where 26 Māori students were studying integrated topics across the learning areas of mathematics, science, economics, social studies, and health.

Building competencies about *manaakitanga* which are relationships, kinship and student connection is immensely valuable to me as a teacher. I want students to be able to share responsibility and work collaboratively in a *kapa* (team), be able to talk respectfully to one another and to me and talk with informed points of view about their project work . . . because if they develop these *tikanga* [protocols], they will have the strategies to tackle topics

involving things like social justice, culture, and inclusion. I nurture these in my teaching; I show them the meaning of *mana* [influence] which they can possess in their learning. Each *kapa* has a reflection weekly log, there are sections, and they describe what they have been working on, what their roles look like—they can select these from a list provided, and they also select what skill they have been working on and use a scale to rate it. This gives me information in terms of the competencies and where they are at with them, and importantly, it gives the students a record of their own thoughts on their progress, their voice in the learning process. (Josy)

Note: In NZ, Māori is the indigenous culture where the national Treaty of Waitangi containing three principles (partnership, protection, and participation) are mandated and highly respected in institutions at government and educational levels. Māori language, culture and values are taught in schools as part of the curriculum. Thus, those working with Māori learners attempt to acknowledge indigenous voice (Prete & Lange, 2021) and ways of being (Wearmouth & Berryman, 2012) in their teaching. Many terms in Māori language are second nature to teachers in NZ schools and used on a daily basis in their teaching space, therefore the previous case study includes Māori language conceptual words and phrases that have English translations in brackets after each indigenous term.

Josy highlights the importance of exploring student agency through evaluation of competencies, and in doing so, places agency in a relational space where learner self-reflection was a focus. Here, we see the potential for an important element of Māori agency, *manaakitanga* (inter-relatedness and developing positive relationships). Mead (2003) offers a long-standing perspective, reminding us that the concept extends beyond actual respectful relationships to include connections with non-kin individuals who become like family through shared experiences. This idea offers insights into student agency, particularly in how students interact with one another and navigate the diverse cultural worlds they inhabit. It emphasises shared experiences, and the development of a sense of belonging (Shteynberg et al., 2020). We cannot know the extent to which this dynamic fosters *mātauranga* Māori (Māori epistemology) (Hynds et al., 2014). However, to fully realise CI as a social knowledge building process envisaged by Scardamalia and Bereiter (2010), one way of incorporating agency could involve the consideration of better metacognitive classroom strategies shaped through a cultural centredness (Macfarlane, 2004).

One of the risks of evaluating for competencies such as student agency across several learning areas is that the discipline-specific nature of competencies can be overlooked (McDowall & Hipkins, 2019). A competency like managing self or relating to others can be treated as being the same for curriculum areas such as science and social-studies, while in fact there are similarities in the ways in which scientists and social-scientist critics negotiate, share ideas, think, and manage themselves. There are however unique discipline-specific differences with respect to key competencies such as using language, symbols, and texts stated in the New Zealand Curriculum (Ministry of Education, 2007, p. 12). Some teachers raised this challenge, and there was a risk that this may be interpreted purely as a broad competency. Teachers saw a challenge of integration as finding a balance between learner agency and specific subject skills/content knowledge. Nine teachers approached integration through a multi-disciplinary model. In other words, they focused on themes that reflected real-world contexts, such as climate change,

international conflicts, and natural disasters. However, the assessments were designed around the specific skill expectations of the relevant curriculum areas.

In the following quote, Rob articulates how certain subject-specific skills, particularly in science, require deliberate and careful facilitation to ensure they are not lost or overlooked. A trained primary school teacher, Rob has taught independently for 22 years, integrating curriculum topics across social studies, English, and science at Year 9 (13–14-year-olds). The class had 17 students in attendance.

On one hand I like to offer opportunities to inquire, to ask questions, to explore ideas across a range of subjects, but on the other hand they need specific knowledge and skills. There are certain things they need to know about, say in science, like measuring, observing, classifying, and identifying, that may not come up, say in social studies. Science has special things, special parts to it, so I've got to be wary they're not missed out. (Rob)

While Rob talks of being responsive in this excerpt, we note that while it appears that his students can be agentic in their autonomy of inquiries, there may be no action on the part of the students to follow up on identified knowledge gaps and curriculum connections. Without resulting learner action, we question whether agency can be anything other than tokenistic. We question whether learner agency is in play if learners are not kept abreast of the ongoing actions that result from their verbal articulations in knowledge development. This theme links to the next section regarding the location of knowledge from the teacher's perspectives.

Teacher enactment of locating knowledge

One of the key challenges in implementing Curriculum Integration (CI) in secondary education is addressing the enactment gap, a concept introduced by Schoen (1992) to describe the disconnection between knowing why change is necessary and knowing how to enact it. As Kneen et al. (2020) caution, introducing integrated programmes in secondary schools may risk teachers struggling to engage with unfamiliar content knowledge from disciplines outside their specialisation. Effective educational change requires teachers to make explicit the distinction between understanding the rationale for change (Timperley & Parr, 2010) and recognising the specific knowledge and skills needed to implement it successfully. Addressing the enactment gap involves teachers developing the capacity to identify critical content knowledge for their learners and assessing the depth of student engagement with that knowledge. This shift requires moving beyond theoretical awareness of CI practices towards sustained, informed engagement through increased content knowledge and pedagogical responsiveness. A further challenge identified by participants was the tension between promoting student agency and ensuring the inclusion of specific disciplinary knowledge. While the nature of integrated curriculum learning encouraged students to pursue their interests, teachers also recognised the need to preload essential content in a teacher-directed manner. This was particularly difficult when trying to determine in advance what knowledge would be most relevant for different students, as learning needs varied across individuals and contexts. An illustrative example comes from Manu, a science teacher and CI coordinator at an urban secondary school. Manu worked alongside colleagues specialising in social studies,

technology, and health to co-teach 2 classes of 56 students. He reflects on the collaborative process:

We use student work to identify areas where understanding may be incomplete and make time to discuss how we can strengthen that knowledge. It's about finding the balance between giving students the freedom to explore their interests through inquiry and ensuring that essential content is thoroughly addressed. Observing how other teachers approach this helps us refine and adapt our own content coverage. (Manu)

Manu's comment illustrates a key aspect of closing the enactment gap: teachers taking responsibility for their own and others' learning and engaging in co-construction of curriculum through shared reflection and evaluation (Timperley, 2007). His leadership role in the CI programme exemplifies teacher agency, not just in coordinating logistics, but in fostering deeper professional learning through observation, inference, and critical reflection. This aligns with Timperley and Parr (2010) who emphasise the importance of theory-informed practice and iterative cycles of action research in driving meaningful change. Within the discourse of enactment, teachers are positioned as agents of change. However, the challenge remains in translating conceptual understanding into practical implementation. Manu and his colleagues demonstrate the importance of collaborative inquiry and shared responsibility in navigating the complexities of integrated curriculum design and delivery, particularly in balancing student-led inquiry with the intentional inclusion of essential disciplinary knowledge.

Discussion

The teacher voice in this study revealed rich and diverse narratives that underscore the relevance of context and the importance of both teacher and learner agency within junior programmes. The discourse illuminated integrated curriculum approaches that foreground several key themes: fostering student engagement, cultivating positive relationships, creating opportunities for learners to pursue personal interests, enabling teachers to innovate in their pedagogical practices, and grappling with the challenge of disciplinary knowledge becoming less visible and explicit. We emphasise the need to critically examine socio-cultural-relational pedagogy, particularly in relation to the appropriateness of existing school structures and organisational spaces. The process of connecting curriculum and negotiating learning (Fraser et al., 2013; Taylor & Whyte, 2022) requires teachers to position themselves thoughtfully identifying what matters in their practice and making decisions through both peer collaboration and self-regulation. This theme of relational connectedness emerged consistently across interviews, highlighting the centrality of empathetic relationships in enabling learners to make meaningful curriculum connections. Drawing on Hogg et al. (2021), relational connectedness is seen as a dynamic interplay between learner agency and targeted teacher intervention. Teacher positioning within the learning-teaching space is also shaped by socio-spatial power relations (Charteris & Smardon, 2021), suggesting further research opportunities to reframe curriculum integration (CI) through discourse analysis. While previous research has outlined strategic policy moves towards CI in primary schools in Aotearoa New Zealand and internationally (Fogarty-Perry, 2017; Fraser & Paraha, 2002; Fraser et al.,

2013; McDowall & Hipkins, 2019), our study required close inspection to understand how these discourses manifest in secondary school teacher experiences.

Secondary teachers face unique challenges in implementing CI, particularly due to the specialised pedagogical content knowledge required in distinct disciplines. Prior research has indicated that such knowledge does not always transfer seamlessly across subject boundaries (Arrowsmith et al., 2015; Dowden, 2014; McDowall & McDowall, 2021; McPhail, 2018). Additionally, discipline-specific competencies (Boyd & Hipkins, 2012; Pluim et al., 2021) may be overlooked in integrative programmes, where topics span multiple curriculum areas, as illustrated in the case of Rob. Teachers in this study demonstrated that socio-relational pedagogy (Bell, 2011) and idea development were closely intertwined. Opportunities for student advocacy were seen as moments for co-construction of knowledge between teacher and student, and among students themselves. A careful balance was required between contextual relevance and the identification of disciplinary knowledge within integrated learning. Young (2008) argues that each curriculum area possesses its own complex network of codes and practices essential for learning. Kneen et al. (2020) similarly highlight the complexity of subject knowledge and the critical role teachers play in recontextualising disciplinary content to create engaging and meaningful contexts.

Our findings show that teachers often began curriculum integration through an exploratory phase, identifying current and relevant themes. They described instances where students engaged with cross-disciplinary ideas, such as in Jeanne's case, where connections between multiple learning areas were made explicit. Teacher reflections across journals consistently emphasised the need for adequate time to plan and prepare integrated programmes often supported by school leadership through additional resource allocation. The teacher priorities that emerged prominently across interviews included learner engagement, planning and design, content knowledge, and inter-relationships. These priorities were closely linked to the nature and design of the learning context, which in turn was shaped by student relationships. However, the emphasis on relational pedagogy and contextual relevance sometimes shifted focus away from discipline-specific learning. Donaldson (2015) cautions that integration may dilute the depth of disciplinary knowledge. Critics argue that integration can lead to fragmentation or superficial grouping of subjects (Davies & Trowsdale, 2021), while McPhail (2018) warns against allowing broad competencies to overshadow explicit instruction in discrete subjects.

Despite these concerns, the teacher discourse in this study points to benefits of integration such as developed student agency and learner relationships that should not be overlooked. Our investigation suggests that curriculum programmes can be reshaped through diverse and meaningful contexts without compromising disciplinary rigour.

Conclusion

This study has explored how a small group of secondary teachers transition their practice to meet the demands of CI programmes in eight schools in Aotearoa New Zealand. Understanding more about how they adopt and develop their practice to meet the demands of CI has been a worthwhile investigation. Half of the schools in this study have had an integrated programme running mutually in conjoint

with specific curriculum subjects taught. This was indicated as a design feature, and perhaps it is a way forward in developing future secondary programmes in other schools that may wish to integrate curriculum in a similar manner but are unsure where to begin. We report there was not one, single approach of facilitating CI, there was a range of possible designs in school programmes. We have provided data analysis which suggests that time for planning, resourcing and professional development was necessary for the teachers. CI for many was seen as demanding, however they identified opportunities for learner engagement and agency, with the juggling of disciplinary knowledge. If CI is to fully realise the intention of Dewey (1916) and more recently Beane (1997, 2005), we suggest there are opportunities for secondary schools to explore alternative programmes away from simply separating knowledge into discrete learning areas. There is also potential for teachers from all learning areas to work more collaboratively. A strength of the research project has been in bringing teachers together to critically discuss CI, to share their insights as they have navigated both opportunities and challenges. Extending opportunities for such shared professional development and dialogue throughout the country would be a valuable legacy from the project.

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Author contributions

This is a co-authored paper in which both authors conceptualised the paper, analysed data and wrote up the ensuing outcomes collaboratively. Both authors reviewed the manuscript.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Ethics approval

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