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Curriculum Implementation Exploratory Studies 2

Report to the Ministry of Education

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Curriculum Implementation Exploratory Studies 2

Final Report

**Rosemary Hipkins, Bronwen Cowie, Sally Boyd, Paul Keown,
and Clive McGee**



NEW ZEALAND COUNCIL FOR EDUCATIONAL RESEARCH

TE RŪNANGA O AOTEAROA MŌ TE RANGAHAU I TE MĀTAURANGA

WELLINGTON



THE UNIVERSITY OF
WAIKATO

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Table of Contents

Executive summary	1
A summary of key findings for each research question.....	1
1. <i>Changes made to engage students in learning</i>	1
2. <i>The benefits and challenges posed by community engagement</i>	1
3. <i>Iterative exploration of the key competencies</i>	2
4. <i>The principles at work in the school curriculum</i>	2
5. <i>How are we doing? Teaching as inquiry</i>	3
6. <i>Rethinking relationships between breadth and depth</i>	3
7. <i>National Standards and The New Zealand Curriculum: A continuum of possibilities</i>	4
8. <i>Accessing and using resources to help lift achievement in the secondary schools</i>	4
9. <i>Barriers versus enablers or enabling constraints</i>	4
Addressing the overarching question.....	5
1. Introduction	7
Organisation of the report	8
<i>Student-centred perspectives and impacts</i>	8
<i>The enacted curriculum, including teacher views and actions</i>	8
<i>Responses in the broader policy context</i>	8
<i>Overall synthesis</i>	8
2. An overview of the research processes	9
The mediated conversation process	9
<i>The mediated conversation participants</i>	11
<i>Observations about the method</i>	11
Processes followed for the case studies	11
<i>Selecting and visiting schools</i>	12
<i>Data collected</i>	13
<i>Observations about the case study method</i>	13
Data analysis	14
3. Changes made to engage students in learning	15
How schools understand engagement challenges.....	15
A focus on attendance and presence.....	16
A focus on lifting achievement	17
Creating a sense of relevance and connectedness: “Student voice” initiatives.....	18
<i>Student leadership opportunities/student consultation</i>	18
<i>Inquiry learning/learning in engaging contexts</i>	18
<i>Self-regulation, learning to learn</i>	20
<i>Responding to diversity</i>	20
A focus on effective pedagogy.....	20
Commentary	21
4. The benefits and challenges posed by community engagement	23
The nature of engagement with the wider community.....	23
Informing parents about curriculum directions	23
Involving parents in supporting students’ learning	24
<i>Getting parents into school and making them feel welcome</i>	24
<i>Adopting strengths-based approaches</i>	25
<i>Changes to reporting processes</i>	25
<i>The community as an “authentic audience” for demonstrations of learning</i>	27
Engaging parents in shaping the curriculum “big picture”	27
Parents as contributors to the enacted curriculum	28
<i>The community as a resource for students’ learning</i>	28
<i>Community contributions to building a local curriculum</i>	28
The challenges of community engagement	30
What now?	32

5. Iterative exploration of the key competencies	33
How schools have engaged with the key competencies	33
Taking a systems approach to enacting the key competencies	34
<i>Key competencies at the school-wide level</i>	35
<i>Key competencies within the primary school learning programme</i>	37
<i>Key competencies within the secondary school learning programme</i>	38
<i>Assessment practices and key competency development</i>	38
<i>Key competencies for teachers</i>	40
Where to next?	40
6. The principles at work in the school curriculum.....	43
The work that principles do	43
The individual principles at work	44
<i>High expectations</i>	44
<i>Community engagement</i>	45
<i>Learning to learn</i>	45
<i>Treaty of Waitangi</i>	46
<i>Cultural diversity and inclusion</i>	47
<i>Coherence</i>	48
<i>Future focus</i>	49
How schools were addressing this principle.....	49
Thinking about the principles as a system	50
Does it matter if principles are in the background?	50
7. How are we doing? Teaching as inquiry	53
How schools understand and enact teaching as inquiry	53
<i>An accountability approach to inquiry</i>	54
<i>Structured group reflection as teacher inquiry</i>	55
<i>An action research or Ariki-style approach</i>	55
<i>A lesson study approach</i>	56
Is it working?	57
<i>Teacher inquiry: Both individual and collective</i>	58
<i>The tensions of accountability versus exploration</i>	58
8. Rethinking relationships between breadth and depth.....	60
The nature of the either/or dilemma	60
Ways of addressing the breadth/depth relationship	61
<i>Traditional “coverage” thinking</i>	61
<i>Planning that balances breadth and depth</i>	61
<i>Breadth and depth in “situated” experiences</i>	62
<i>Connected knowing that is broad and deep</i>	63
Issues and challenges for developing connected knowing.....	64
Benefits for developing connected knowing	65
9. National Standards and <i>The New Zealand Curriculum</i>: A continuum of possibilities.....	69
Working together to align <i>The New Zealand Curriculum</i> and the National Standards.....	69
The main areas of concern and opportunity.....	71
<i>Tensions between National Standards and <i>The New Zealand Curriculum</i> “content”</i>	71
<i>Tensions between National Standards and student-centred intent of <i>The New Zealand Curriculum</i></i>	71
<i>Concerns about making overall judgements</i>	72
<i>Concerns for later adopter schools</i>	72
The push of data-driven accountability and the pull of professional inquiry	73
10. Accessing and using resources to help lift achievement in the secondary schools.....	75
The relative invisibility of targeted resources.....	75
<i>Simple, compound and complex resources: Lining up the ducks</i>	76
A complex framing of resourcing	76
<i>Pedagogy as curriculum in action</i>	79
<i>Distributed leadership of curriculum implementation</i>	79
<i>Assessment and reporting that forms and informs learning</i>	79
<i>Changing classroom and school cultures</i>	79
Links between the action areas and targeted resources	79
Gaining greater leverage through complex resourcing.....	80

11. Building on the past and present, looking to the future	83
A responsive curriculum is a more transparent curriculum	84
Transparency about the goals and processes of education and learning	84
<i>Recommendations</i>	85
Strategic use of distributed and decentralised leadership	85
<i>Recommendation</i>	86
The school community as a learning community	86
<i>Recommendations</i>	87
Transparency about knowledge and evidence of learning	87
<i>Recommendations</i>	88
Crafting system coherence to leverage implementation	90
<i>Recommendations</i>	90
In summary	91
References	92

Tables

Table 1	CIES overview in the context of <i>The New Zealand Curriculum</i> implementation.....	7
Table 2	The research design for CIES 2.....	10

Figures

Figure 1	Taihape Area School's multifaceted approach to address student engagement.....	16
Figure 2	One school's vision as a visual metaphor	35
Figure 3	A visual metaphor with a focus on learners	36
Figure 4	Direct and indirect state resourcing of <i>The New Zealand Curriculum</i>	78

Executive summary

This is the final report for the research project Curriculum Implementation Exploratory Studies Phase 2 (CIES 2). Over two phases and three years the CIES project has developed an analytical account of the various ways in which innovative schools and individual teachers have been working to implement the revised *New Zealand Curriculum* (Ministry of Education, 2007).

CIES 1 employed case studies as the main methodology (Cowie et al., 2009). CIES 2 continued the case studies with nine schools from CIES 1, and added a case study of a low-decile, rural, full primary school. CIES 2 also involved “mediated conversations” with two groups of school leaders (Auckland, Christchurch) and two groups of teachers (secondary in Auckland, primary in Wellington). For these conversations, participants came prepared to talk to three or four other participants and a researcher for around 15 minutes. They introduced and discussed an artefact generated through or representative of their curriculum implementation practice. Subsequent to these short sessions the MOE research questions were introduced and discussed. During CIES 2 we also reviewed existing research about community involvement to produce a short synthesis (Bull, n.d.). After conducting separate analyses of the case studies and the mediated conversations we merged the overall findings to produce this final synthesis. The report also takes account of key findings from CIES 1 (Cowie et al., 2009) to document the implementation of *The New Zealand Curriculum* across all three years of the project.

A summary of key findings for each research question

1. Changes made to engage students in learning

Across the many schools represented in CIES 2 there was wide recognition of the need to do more to engage students in learning—all students and not just those who have traditionally been easy to involve. Many schools saw the challenge of increasing engagement levels as a multifaceted endeavour requiring change on a number of fronts including: increasing student attendance at school; lifting achievement so that *all* students experience success; creating a sense that learning matters (often linked to so-called “student voice” initiatives); and a focus on the qualities of students’ learning experiences (typically linked to an exploration of the Effective Pedagogy section of *The New Zealand Curriculum*).

The range of “student voice” initiatives included: the provision of student leadership opportunities; introduction of new processes for student consultation; the use of inquiry learning or other pedagogies that made space for aspects of students’ wider lives to be included in learning; the provision of opportunities and support for student self-regulation and learning to learn; and the adoption of culturally responsive pedagogies.

Participants often commented anecdotally that they had seen lifts in student attendance and motivation, including for Māori students. However, schools are mindful that there can be a lag as children make up for lost time. Some teachers said it was “too soon” to expect lifts in achievement. There is some debate about whether schools need specific goals for their Māori students, differentiated from other school-wide goals. Interestingly, only one school leader described an initiative that could be described as meeting the challenge of allowing Māori students to succeed *as Māori*. There is a need for ongoing conversations about what rethinking meanings of achievement might entail. Such conversations are likely to raise interesting skill and capacity issues.

2. The benefits and challenges posed by community engagement

As with so many other aspects of curriculum implementation, in some schools *The New Zealand Curriculum* has acted to provide additional support and impetus for directions in which the school was already moving. The possibilities for community engagement that Bull (n.d.) identified within the data lie along a continuum from approaches and actions

that essentially inform, to those that open up more *participatory interactions* between the school and its community. *The New Zealand Curriculum*-related activity has particularly focused on the first three of the purposes listed below, but there were examples of all of them across the schools:

- informing parents about curriculum developments at the school
- involving parents in a two-way exchange of information intended to better support students' learning
- consulting parents about the vision, values and overall direction of the school's curriculum, and including their input in the processes used to shape relevant documents and school-wide practices
- providing the community with the skills, information, authority and resources to work with the staff to make decisions about the curriculum and learning at the school.

Gaining active participation of parents is not easy and schools' well-intentioned efforts are not always rewarded with high participation levels. One challenge not mentioned by schools, but evident from the analysis, is that some schools may be hampered in certain aspects of community engagement by a lack of clarity about the *purposes* of such activity and what should ultimately be achieved. Clarifying the range of purposes for which the community might become more involved in building and enacting a local curriculum could be a productive next step to capitalise on these positive gains.

3. Iterative exploration of the key competencies

The key competencies are widely seen as an interesting "new" aspect of *The New Zealand Curriculum* and so have been a common entry point for many schools' exploration of the national curriculum. Once schools and teachers have moved past the need to understand the nature of the key competencies, their focus has typically turned to their use as a means to rethink practice. Generic explorations have typically been coupled with the idea of learning-to-learn, resulting in an emphasis on aspects of pedagogy such as fostering self-management strategies. As yet, it is less common to find *discipline-specific* changes to teaching and learning made in response to key competencies.

A powerful cycle of iterative learning takes place when schools connect ongoing exploration of the key competencies to earlier professional learning. One consequence of ongoing exploration might be a recognition that the key competencies can be developed throughout all aspects of school life, both inside and outside classroom programmes. Another change might be recognising that assessment and reporting practices need to change (i.e., not just teaching practices). Schools and teachers are also recognising that the focus on lifelong learning competencies applies to teachers as well as students. Despite this considerable progress, exploration of the key competencies is likely to continue to be a fruitful focus for professional learning for all the CIES schools. An area of next exploration is likely to be differences in opportunities for competency development offered by different subjects or different types of learning experiences.

4. The principles at work in the school curriculum

Teacher commentary suggests the principles are often embedded in other aspects of implementation rather than being foregrounded in curriculum decision making. The coherence of the front end of *The New Zealand Curriculum* ensures that they are being enacted, whether deliberately or via their alignment with other aspects of *The New Zealand Curriculum* and other professional learning and change initiatives. For example, the principle of high teacher expectations was clearly reflected in the attention being paid to student engagement and high expectations were also often communicated to the whole school community via each school's vision for learners.

Because *The New Zealand Curriculum's* vision, values, principles, key competencies and effective pedagogy sections are broadly coherent in their core "messages", an exploration of the principles offers a valid entry point to the curriculum, one that is of equal merit and potential value to that of a focus on the more common entry points of vision, key competencies or learning area(s). This diversity of entry points is likely to be of value for later adopter schools that

might prefer to begin with a discussion on the way teachers decide what and how to include particular topics, ideas and activities in the curriculum.

The *future focus* principle is arguably the one that has received least attention to date. This principle appears to be somewhat problematic in its conception through the potential limitation of listing topics rather than introducing a focus on futures thinking and/or school change. Another challenge for working with the principles is that they can be read in isolation or as an interconnected set. There would seem to be merit in considering them as a system.

5. How are we doing? Teaching as inquiry

The Effective Pedagogy pages of *The New Zealand Curriculum* have prompted a fresh look at teaching methods in the early adopter schools, both primary and secondary. It was clear to the leaders of these schools that a “transmission of information” model of teaching will no longer suffice. Whereas the *New Zealand Curriculum* model for teacher inquiry (Ministry of Education, 2007, p. 35) implies an *individual* inquiry process, most schools were using some version of the *New Zealand Curriculum* model as a tool to deprivatise practice via *collective* inquiry. School leaders and teachers in the early adopter schools tended to emphasise the “learning together” with the intent of collectively building practice at different levels of the school system.

A number of different teacher-as-inquirer models were evident across the case study schools, and each school could be using one or more of these approaches in combination:

- an accountability approach where the focus was on “improving the numbers” in relation to specific aspects of student achievement
- a structured group reflection approach where the focus was on exploring professional readings
- an action research/Ariki-style approach with a focus on a particular aspect of practice, question or issue which leaders or teachers were exploring individually but with team input
- a lesson study approach.

Over the three years of the CIES study there has been considerable work done on teaching as inquiry in the early adopter schools. Although the conflation of teaching as inquiry and inquiry learning is no longer prevalent, there is still a degree of confusion for some teachers.

The evidence from the schools and teachers involved in this study indicates that they are working hard, and successfully, on building a culture of openness, trust and collective responsibility so that data collected and analysed are used positively and constructively to improve the outcomes for all. They have, it would seem, avoided negative criticism and blaming individuals or groups.

6. Rethinking relationships between breadth and depth

Research participants, in both the workshops and the case studies, appreciated the freedom that *The New Zealand Curriculum* gave them to move away from a traditional “coverage” focus. However, there was some concern about how to balance breadth and depth, largely associated with meeting external accountability demands. Four possible models for addressing relationships between breadth and depth were discerned within the data:

- traditional “coverage” thinking where the focus is on covering each learning area in a manner that is readily *auditable*
- teacher planning that balances breadth and depth by holding them in tension
- breadth and depth balanced through inquiry processes with a strong emphasis on making connections with students’ out-of-school lives and experiences

- a focus on connected knowing in which students learn in ways that broaden their awareness of the connectedness of ideas and actions in the world.

Leader and teacher comments suggest we need innovative examples to show students could learn in ways that are simultaneously deep and broad. The idea of “connected knowing” could be a useful start point for exploring this challenge. Learning that is deep and broad should support increased success in high-stakes assessments, which would have appeal for teachers. Such learning would also support students’ learning for active participation in society, as is envisioned in *The New Zealand Curriculum*.

7. National Standards and *The New Zealand Curriculum*: A continuum of possibilities

In the early adopter schools in this study, working to strengthen the achievement of every student via evidence-based practice was widely understood to be central to *The New Zealand Curriculum*. For this reason these school leaders were not opposed to National Standards per se. However, they did have concerns about the manner of implementation of the standards initiative and some of the proposed detail. They did not want to be diverted from the vision and direction they had developed for their school (which incorporated *The New Zealand Curriculum*) so they were working to shape the standards initiative to retain their autonomy in working towards what was best for their students.

Concerns were expressed by case study secondary and primary school leaders and teachers about the potential of the standards to narrow the taught curriculum and to undermine the intent of *The New Zealand Curriculum* to be used to design a local curriculum to address students’ differing learning strengths and needs. Other concerns revolved around the integration of evidence from multiple sources. Mindful of the challenges of their own school’s *New Zealand Curriculum* journey, and of needing to work hard not to be diverted from this by the standards initiative, CIES study principals were worried about the diverting impact of National Standards on schools that have yet to reach this point on their *New Zealand Curriculum* implementation journey.

8. Accessing and using resources to help lift achievement in the secondary schools

When the question of resources was raised, a common first response was “What resources?” It appears teachers are often unaware of the source of materials they use. Tellingly, this question prompted some of the case study teachers and leaders to observe that *The New Zealand Curriculum* implementation was more applicable to Years 9 and 10, because the National Certificate of Educational Achievement (NCEA) dominates the senior secondary years. When prompted to think of NCEA resources as potential curriculum resources, some teachers commented that the annotated student examples and moderators’ reports were extremely useful.

Reconsidering this question we sought to explore why it might be that resources are not more visible in the light of *all* the data we had gathered during the project. We propose a model that suggests interrelationships between *The New Zealand Curriculum* (with its positioning of students as central to the curriculum) and other policy initiatives such as Ka Hikitia and the Pasifika Education Plan. The model establishes four areas of action: pedagogy as central to curriculum change; the importance of distributed leadership of change; the influence and role of assessment and reporting that forms and informs learning; and the need to change classroom and school cultures. Each of these areas of action has a mix of potentially available resources and ongoing resourcing implications. However, intended impacts will be realised only when individuals see ways to use resources to transform their intentions into action and when they are willing to invest the effort to do so.

9. Barriers versus enablers or enabling constraints

Rather than consider barriers and enablers as binary opposites it seems useful to identify factors that could act as enabling constraints. This notion, taken from complexity theory, focuses on the *possibilities for action within the boundaries of the identified constraints*. The analysis identified the following enabling constraints across the schools in the study:

- distributed leadership and decentralised control/responsibility
- evidence-based/data-informed individual and collective inquiry and action
- implementation of change as a process of “iterative adaptation”
- the use of symbolic artefacts as touchstones for change
- a deliberate search for coherence across practices and initiatives to leverage implementation
- bringing together resources to build capacity
- a focus on the school community as a learning community
- critical and constructive use of data
- aligning assessment policies (National Standards and NCEA) with the intent of *The New Zealand Curriculum*.

Each of these factors operates to reposition potential barriers as opening up complex spaces of possible actions to give effect to *The New Zealand Curriculum*.

Addressing the overarching question

**How does the school curriculum respond to the needs of the community and reflect the needs of its students?
How is it enacted in the school?**

The nearly 60 schools in the CIES 2 study were actively working to address the challenge of building a responsive curriculum. As “early adopters” many were in fact conscripting the curriculum into a learning journey which had begun well prior to its appearance. They understood the necessity of making changes in schooling and that doing so would require a collaborative learning effort. *The New Zealand Curriculum* provided a compelling focus for involving the school and wider community in this learning. The report documents the notable achievements of this process.

Looking across the three years of data collection in the case study schools it appears that the process of curriculum implementation has followed an s-shaped or sigmoid curve. This idea comes from ecology and has more recently been used in various branches of the social sciences, including education. This sigmoid model highlights growth as a series of spurts of change followed by plateaus which act as periods of consolidation and preparation for the next spurt. During the “plateau” time schools are amassing understandings needed to meet “adaptive challenges” that go beyond their current capacity or current way of operating (Fullan, 2004, p. 4).

A key challenge for schools and the education system as a whole is to transition to the next stage of development, where the intended reinvention of a “21st century” curriculum can be more fully realised on the foundation of the hard work schools have undertaken to date. The sigmoid model points to the need to avoid an alternative possible trajectory of losing momentum and falling back into old patterns. It also provides a reason for other “good” schools to undertake more extensive change, since the sigmoid curve change theory predicts complacent organisations typically do not perceive a need for change until they are well into the decline phase.

Indications are that ongoing adaptive curriculum change will need to be underpinned and informed by the development of greater transparency about:

- the goals of education/schooling
- what we envisage as student learning and achievement
- learning challenges implicated in new ways of working

- learning processes that inform new conversations such as learning to learn
- knowledge and knowledge-building processes that underpin the various discipline areas
- means and purposes for valuing of community and student funds of knowledge
- strategic use of different leadership models.

These would appear to be the key areas for ongoing policy and resourcing to maintain the momentum of curriculum change achieved to date in the early adopter schools. Attention to these areas could also support later adopter schools to increase their efforts to give effect to *The New Zealand Curriculum* in ways that help them reinvent their curriculum for the 21st century.

1. Introduction

This is the final report for the research project Curriculum Implementation Exploratory Studies Phase 2 (CIES 2). Over two phases and three years the CIES project has developed an analytical account of the various ways in which innovative schools and individual teachers are working to implement the revised *New Zealand Curriculum* (Ministry of Education, 2007). The overall time frame for the CIES project is outlined in Table 1 which also shows its relationship to the implementation stages of *The New Zealand Curriculum* itself.

Table 1 **CIES overview in the context of *The New Zealand Curriculum* implementation**

	<i>The New Zealand Curriculum</i> implementation actions	CIES research stages
2006	Feedback invited on draft version of <i>The New Zealand Curriculum</i>	
2007	Feedback acted on Final <i>The New Zealand Curriculum</i> released late in school year	
2008	Implementation support packages and materials released Professional learning time funded	First CIES project in 19 “early adopter” schools. Case studies and thematic reports produced
2009	Revised NAGs gazetted late 2009 Additional professional learning time funded	Final CIES 1 report mid-2009
2010	New NAGs take effect February 2010	CIES 2 begins with review of research on community engagement (Bull, n.d.) Mediated conversations March–May Ongoing school case studies (May–August) Final report February 2011

The New Zealand Curriculum is a curriculum that, rather than being prescriptive, “sets the direction for learning for all students while at school” (Ministry of Education, 2007, p. 7). Giving effect to its intent requires ongoing interpretation, action and review of aspects such as the vision, values, principles and key competencies, meaning that what implementation ultimately looks like will vary between schools, especially where students have differences in their identified learning strengths and needs. Against this background, both phases of CIES have focused on the decisions and actions taken in a small number of “early adopter” schools. The phase 1 early adopter schools were identified by MOE as having engaged early with professional learning related to the challenges of giving effect to *The New Zealand Curriculum*. These schools were not seen as representative of all New Zealand’s schools. Rather, CIES 1 had an **exploratory** focus. It sought to elucidate: how schools were interpreting *The New Zealand Curriculum* and giving effect to its intent as they understood this; what was going well; what aspects were more problematic; and where further support might be needed as other schools followed the early adopters into the implementation journey. CIES 2 aimed to extend and add value to other research about the implementation of *The New Zealand Curriculum* by exploring areas of specific interest that evolved from the first round of the study (Cowie et al., 2009).

CIES 1 reported schools need to work through *iterative adaptive* learning processes to understand the intent of the new document, and what it might mean for their changing professional practice. They need to do this in *partnership* with their local community, especially their parents and students, so that the curriculum they design and then monitor on an ongoing basis is effective in supporting the learning and achievement of all their students, and the work of the school is understood and supported by others who can help students learn at school and in out-of-school settings. The findings from CIES 1 generated the questions for CIES 2 outlined below.

Organisation of the report

The next section of the report gives an overview of the research processes followed. Following that we report the findings by discussing the research questions in three clusters. The questions are listed in the order in which they are discussed.

Student-centred perspectives and impacts

- Section 3: What are the key shifts that have taken place to engage and empower students (and particularly Māori students) in their learning? What impact is being seen on student achievement as a result of shifts in schools and classroom practice?
- Section 4: How are schools engaging with their communities to inform their local curriculum and what are the processes, barriers and enablers to this?

The enacted curriculum, including teacher views and actions

- Section 5: How are the key competencies being explicitly planned for and developed in and across the learning areas?
- Section 6: How are *The New Zealand Curriculum* principles being used by schools to give effect to *The New Zealand Curriculum*, and what are the actual school and classroom practices that demonstrate this?
- Section 7: How is the teaching as inquiry process helping teachers practise evidence-based teaching, particularly in secondary schools?
- Section 8: How are schools ensuring sufficient support and attention to the depth and breadth of learning area content knowledge?

Responses in the broader policy context

- Section 9: How are the National Standards for Years 1–8 helping schools attend to literacy and numeracy demands across the curriculum?
- Section 10: How are secondary schools using *the New Zealand Curriculum* and targeted secondary resources to improve student achievement, particularly in the senior school?

Overall synthesis

- Section 11: What are the enablers and barriers to sustaining curriculum implementation as a process within and across schools?
- How does the school curriculum respond to the needs of the community and reflect the needs of students? How is it enacted in the school?

2. An overview of the research processes

CIES 1 employed case studies as the main methodology (Cowie et al., 2009). CIES 2 entailed continuing the case studies with nine schools from CIES 1, also adding a case study of a low-decile, rural, full primary school, which was an identified area of interest to MOE. The second phase also added an innovative “workshop” methodology, which we are calling “mediated conversations”. Mediated conversations were held with two groups of school leaders (Auckland, Christchurch) and two groups of teachers (secondary in Auckland, primary in Wellington). During this second phase we also reviewed existing research about community involvement (for example, from NZCER’s Families and Community Engagement research) and wrote a short synthesis (Bull, n.d.). Table 2 on the next page summarises the data-gathering activities.

The mediated conversation process

In the exploratory phase of the CIES study we found that changes schools and individuals were making were often linked to multiple initiatives, and therefore could not be attributed only to curriculum implementation (Cowie et al., 2009). To address this challenge we invited school leaders and teachers to a series of one-day data-generating “workshops”. The conversations that took place were mediated by two different artefacts: one that participants had been asked to bring and discuss; and MOE’s 10 research questions. Participants came prepared to talk for around 15 minutes about an artefact generated through or representative of their curriculum implementation practice. This physical artefact provided a practical situated exemplification of the participant’s descriptions of their work in relation to *The New Zealand Curriculum*. Peers who shared an interest in curriculum implementation provided an authentic audience for this description of practice.

Subsequent to these small-group discussions (three or four participants shared with each other and a researcher) the MOE research questions were introduced and served to focus attention differently. In effect, the audience changed and participants embarked on retrospective reframing and reflection of the implementation stories they had just heard. This second conversation provided a participatory first level of analysis of the focus group data as people “thought with us” about the research questions.

Table 2 **The research design for CIES 2**

Component One: Two leadership-for-learning mediated conversations			
Focus:			Participants:
Conceptualising a complex curriculum			School leaders from:
School-based curriculum design			9 primary schools
Barriers and enablers			2 intermediate schools
			11 secondary schools
Component Two: Two curriculum-in-action mediated conversations			
Focus:			Participants:
Opportunities in the classroom			Teachers from:
Specific instances of enactment			9 primary schools
Barriers and enablers			12 secondary schools
Component Three: Curriculum-in-action in context (case studies in 10 schools)			
Continuing progress in Wanaka cluster (four primary schools: Wanaka, Cromwell, St Gerards, Alexandra)	Continuing progress in two North Island primary schools (Tatuanui, Cosgrove)	An area school in its community setting (Taihape) A low-decile primary school in its community setting (not named by school request)	Continuing progress in two secondary schools (Morrinsville College, Hamilton Girls' High)

Synthesis of findings from across curriculum-in-action and leadership-for-learning workshops, subsequently linked to and contextualised by case study key findings

The mediated conversation participants

Potential participants were identified through our research networks and the advisory service. The final selection was made to represent the diversity of New Zealand schools to the extent that this is possible with a small sample size.

Participants came from a wide range of schools—rural and urban, high and low decile, large and small. The leadership workshops were attended by mixed groups of primary and secondary principals and other senior leaders. Many of the participants in the teacher workshops had had leadership opportunities in their school and/or more widely, and/or had been engaged in tertiary study or fellowships, involved in NCEA or other professional development initiatives, research projects, or were specialist classroom teachers.

Observations about the method

The mediated conversations method draws from the sociocultural paradigm (Wertsch, 1991) which highlights the role of *artefacts* and *audience*. It is consistent with the philosophy of *The New Zealand Curriculum* that learning is a lifelong pursuit. As *The New Zealand Curriculum* notes:

Opportunities to develop the competencies occur in social contexts. People adopt and adapt practices that they see used and valued by those closest to them, and they make these practices part of their own identity and expertise. (Ministry of Education, 2007, p. 12)

As we had anticipated, the mediated conversations proved to be highly engaging for participants. We convened them for our *research* purposes but the participants experienced them as rich *professional learning*. Peers provided an authentic audience for what participants described. The ideas and artefacts¹ participants chose to bring to the workshops were usually the outcome of a collaborative development process and participants spoke with authority as representatives of this collective endeavour. The artefacts provided a warrant for and elaboration of their description of the implementation process and/or its outcomes/gains. Audience members were able to interrogate both the speaker and the artefact, contributing instances, examples and counter-examples from their own experiences. A number of participants arranged to make further contact with each other. Engaging with other people's learning journeys was a very compelling conversation for these teachers and school leaders and after their session many of them thanked us for the "great professional development".

We discussed this innovative data-gathering method at the New Zealand Association of Researchers in Education (NZARE) conference in December 2010 and received immediate interest and positive feedback from both researchers and leaders of professional learning who are interested in using the method in their own work.

Processes followed for the case studies

The use of a multiple case study design enabled us to explore different schools' experiences and processes of interpreting and implementing *The New Zealand Curriculum*. Stake (2008) notes that both redundancy (repeatedly noting similar practices or challenges occurring) and variety can be important in a multiple case study design. A cross-case analysis and synthesis allowed us to explore commonalities between schools. However, we also developed rich individual snapshots of the ways in which the participating schools went about giving effect to *The New Zealand Curriculum*, including descriptions of the specific contextual factors that supported and constrained their interpretation of the curriculum and the implementation strategies they used.

¹ A number of participants brought visual representations of the key competencies, designed to help students remember their names and intent (e.g., a "KC and the can-dos" doll). Other artefacts were planning documents, posters, vision statements, favourite professional readings, new assessment resources etc.

The case studies reported in the first CIES project were initially planned to be a snapshot in time with the intent that different schools would take part in the second CIES study. However, deep change takes time and it was quickly evident across the two rounds of data collection in CIES 1 that development and implementation processes and focuses shifted and changed as schools analysed and built on from the outcome of made changes. Consequently, nine schools from CIES 1 were invited to continue in the CIES 2 study. A small rural primary school was added at this point to round out the sample.

Multiple visits to the same schools over a three-year period supported us to build a richer picture of the iterative cycles of change and development which occurred. Repeated visits to schools also enabled researchers to develop trusting relationships with school staff which allowed for the frank discussion of perspectives, processes, successes and challenges.

Selecting and visiting schools

To select case study schools, we used a purposeful sampling approach (Patton, 2008). Stake (2008) considers such an approach enables researchers to select cases that are likely to provide the most “*opportunity to learn*”. At the outset of the CIES 1 study the revised *New Zealand Curriculum* had just been released and not much was known about school approaches to the revised curriculum. Accordingly we used selection strategies that were likely to lead us to “early adopter” schools that we anticipated would provide these opportunities to learn.

Schools initially invited to take part were identified in consultation with MOE. Three Principals’ Professional Learning Group (PPLG) clusters in different geographic areas and community contexts were targeted for the first round because they had been convened specifically to explore the implementation of *The New Zealand Curriculum*. They included two well-established primary school clusters, each of four schools; one in the North Island and one in the South. Three of the four schools in a newly established cluster of intermediate school principals also agreed to be part of the study. Four secondary schools that were known to researchers or local advisers as “early adopters” of *The New Zealand Curriculum* were also included in the sample. Initial findings pointed towards the desirability of expanding the sample to include a broader range of school types. Accordingly, two area schools, a newly established secondary school and one low-decile primary school situated in a larger urban area were invited to join the study. These four schools were visited in late 2008 (when the initial schools were about to be visited a second time). The fieldwork in these schools followed the same format as the initial schools. In total, by the end of the two rounds of interviews in CIES 1, 19 schools had taken part in the CIES project. In summary:

- **Round One** (CIES 1) was conducted in March–April 2008 and was essentially exploratory, with a focus on how schools were interpreting *The New Zealand Curriculum*. We collected data that assisted us to build a rich contextual picture of *The New Zealand Curriculum*-related activity in schools located in different community contexts.
- **Round Two** (CIES 1) entailed revisiting the 15 initial schools and four new schools in late 2008 or early 2009, to document ongoing activity in relation to *The New Zealand Curriculum* and, in particular, to explore emerging changes to classroom practice that related to *The New Zealand Curriculum*.
- **Round Three** (CIES 2) entailed visits from early to mid-2010. Nine schools from CIES took part and one additional low-decile primary school was added to the sample. The nine schools that continued in the study were selected because four of them comprised the only professional learning cluster that continued to operate and the others ensured that the study included a range of schools (a large low-decile urban primary; a small rural primary; a large semiurban secondary school; a large urban secondary school; and an area school). Similar to Round Two, we explored impacts on classroom practice. Student perspectives were also included.

Data collected

One or two researchers visited each school for one or two days to undertake the fieldwork. An open exploratory approach was adopted for Round One, with common interview schedules devised for use in the different schools and adapted as necessary for the local context. In CIES 1 Round One we interviewed staff from across the school and included beginning teachers as well as those who were more experienced. For Rounds Two (CIES 1) and Three (CIES 2) we interviewed fewer staff and included a more in-depth focus on the classroom practice of two to five teachers. The interview schedules for Round Three reflected the more specific research questions to be addressed in CIES 2. To ensure we were able to develop a nuanced picture of the changes occurring at each school we collected information from a range of people and from other relevant sources such as school artefacts and documentation, guided visits around the classrooms and other learning spaces (where work related to the school's *New Zealand Curriculum* journey might be displayed) and, where possible, attendance at events such as professional learning sessions or assemblies. At some schools we also undertook informal observations in classrooms.

We asked principals to select a number of staff who were active in exploring ideas relating to *The New Zealand Curriculum* to take part in the study. The number of staff interviewed depended on the size of the school and the way leadership roles were allocated. We tended to interview the same core group of people during each visit to the school. In some cases, newly appointed principals or new staff joined the study. In CIES 2 we also conducted a focus group with a small group of students at each school. To locate students who might be willing to take part in the study, we asked principals and teachers to approach a small group of senior students who had been involved in school activities relating to *The New Zealand Curriculum* or were class or school leaders.

For each data collection round, where practical, the same people were interviewed by the same researchers. We interviewed staff jointly or individually depending on their preference. Interviews were semistructured and lasted from 30–90 minutes. This semistructured format offered researchers the opportunity to follow up unique aspects of practice at each school. To ensure conversations could be reflective, we provided all adult participants with a copy of the relevant interview schedule prior to the visit. Where teachers were interviewed together, this process also enabled them to have an in-depth and reflective conversation with each other. In many cases staff brought notes and examples of practice to share.

The use of a range of different data sources including school documentation, and in most cases, more than one researcher visiting each school, as well as member checking of the completed case studies (by school staff) gave us multiple points to triangulate findings. In the third round, the focus groups with students were an important additional source of information to compare with school leader and teacher perspectives on the impacts of changes they were making on students' learning.

Observations about the case study method

The comparatively small sample of schools in this project could not be considered representative of the diversity of New Zealand's schools. Indeed, they were invited to participate on the basis they were "early adopter" schools. However, fully reflecting this diversity was not the aim of the CIES research. Via the selected cases we aimed to highlight some of the possibilities of *The New Zealand Curriculum* as it was enacted by schools in their different settings. We were also able to build a picture of change over time within the individual system of each individual school. Combined, these cases provided rich and contextual information about unique, as well as common, directions and challenges as experienced across a range of schools.

The staff we interviewed during Rounds Two and Three tended to be leaders of change at their schools. We had interviewed a wider range of staff in the first round but found that this created a degree of redundancy when we heard

similar accounts from different people. Interviewing a smaller number of staff in more depth was in keeping with the intent of probing emerging classroom practice at each school in Rounds Two and Three.

As in the mediated conversations, many of the participants in the case study schools experienced the case study process as a source of *professional learning and reflection*. A number of schools also incorporated a review and discussion of their completed case within their self-review process.

Data analysis

The mediated conversations were very productive and effective in generating data to address the ten CIES 2 research questions. In order to manage the sheer volume of data we each wrote the stories we had heard from the different participants as short vignettes focused on the main idea or action described. All the vignettes were presented as data for the June 2010 milestone and some examples are included in this report to illustrate specific aspects of school practice.

After the first two workshops we searched the data to identify emergent themes to share with MOE. After the second set of workshops had been completed we continued this analysis of emergent themes during a series of interactive team discussions, interspersed with individual writing tasks and further searching of the data. For most questions the material was organised to reflect how participants understood the question or issue (engagement) and specific ways this was being addressed in the schools (enactment). A third stage of the analysis drew on our knowledge of related research and the first stage of CIES to comment on trends and progress with implementation and issues we perceived might have implications for MOE as a policy audience (evaluation).

For the CIES 2 case study data, a common template was used to record insights from each school in relation to each of the 10 research questions. Another template was used to guide analysis and writing of a narrative account of each school's implementation journey. The template was designed to highlight both similarities and differences between schools, and to show how the various actions in each school contributed to the whole.

As in the first round of CIES, the changes that participants chose to discuss were often not made solely in response to *The New Zealand Curriculum*. Rather, *The New Zealand Curriculum* was congruent with the stream of existing work and was embraced as such. We make the point again because we need to be very cautious about arguing cause and effect. Another general observation is that there is no one "right" way to give effect to the curriculum. A local curriculum must be responsive to local contexts, and implementation an ongoing rather than a "one-off" activity for this responsiveness to be maintained. Thinking and practice in the case study schools continued to evolve throughout the project and will no doubt continue doing so beyond the life of CIES.

After the case studies were completed, each section from the June milestone (which reported workshop data only) was revisited by a pair of researchers to create an overall synthesis of both workshop and case study findings for this report. This process involved consideration of the key messages from each case study, sustained discussions amongst the core team of findings and their relative salience and consideration of the literature on innovation, change and scaling up and sustaining change. The scholarship of Michael Fullan provided a key reference point for considering the dynamics of sustainable systems change. The synthesis also drew on and extended insights from a complexity analysis of systems, initially developed in CIES 1. This dual focus on systems and complexity provided a mechanism for developing a coherent overview of the implementation process.

3. Changes made to engage students in learning

What are the key shifts that have taken place to engage and empower students (and particularly Māori students) in their learning? What impact is being seen on student achievement as a result of shifts in schools and classroom practice?

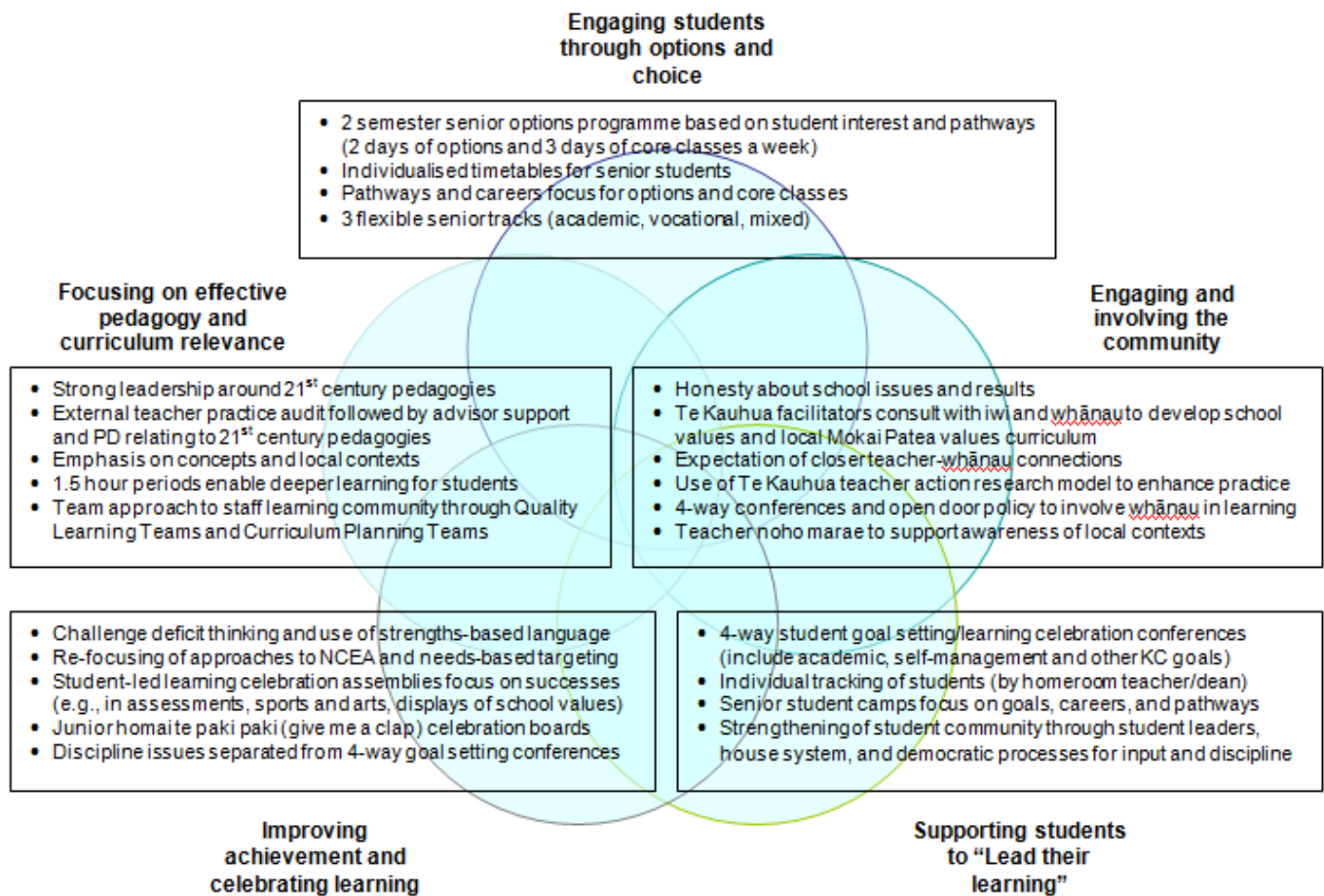
How schools understand engagement challenges

Across the many schools represented in the CIES project there was wide recognition of the need to do more to engage students in learning—*all* students and not just those who have traditionally been easy to involve. Many schools saw the challenge of increasing engagement levels as a multifaceted endeavour requiring change on a number of fronts:

- **Attendance** at school and presence in class is seen as a first step in promoting student engagement in schools where there have been problems in this area.
- **Lifting achievement** so that *all* students experience success is a challenge in all schools.
- Creating a sense of relevance—that **learning matters**—is often linked to one or more so-called “student voice” initiatives.
- A focus on the **qualities** of students’ **learning experiences** is typically linked to an exploration of the Effective Pedagogy section of *The New Zealand Curriculum*.

The case study of *The New Zealand Curriculum* implementation at Taihape Area School includes a good example of a systematic and intertwined approach to addressing student engagement and achievement in all of the areas listed above (see Figure 1).

Figure 1 Taihape Area School's multifaceted approach to address student engagement



Many participants in both the workshops and the case studies made links between engagement and the key competencies, often also linking both of these to effective pedagogy. When making these multiple links, participants acknowledged the affective and relational aspects of engagement and the need to take these into account in any initiatives designed to increase cognitive engagement. Some schools reported using NZCER's Me and My School survey tool to investigate patterns of high-level engagement with school. Others are making their own surveys with the intent of involving students in decision making, or rethinking communications to be more "student friendly".

The different ways the schools enacted the four broad types of engagement initiatives are discussed next.

A focus on attendance and presence

For younger students, attendance tends to be seen as a *partnership* challenge and early adopter schools have typically reached out to their local communities to re-engage whole families with school. As students become more independent the focus of attendance initiatives tends to shift to the consequences of personal choices and responsible decision making (i.e., aspects of the key competency *managing self*). Note that all the following examples pertain to schools with high numbers of Māori students on the roll, and these students were often mentioned by school leaders as a specific focus for attendance initiatives:

- Taihape Area School began with a concerted effort to reach out to the school community, and particularly to parents, so that *everyone* was re-engaged with the school, not just the students. Te Kauhua facilitators were

instrumental in building bridges between the school and the local Māori community to facilitate the building of strong partnership networks.

- One primary school represented in the Auckland leaders' workshop broadcasts a daily children's TV show to local families. Students are involved in all aspects of the conceptualisation, development, production and broadcast of programmes and the initiative has successfully re-engaged the school's parent community while also greatly strengthening literacy programmes through the activities involved.
- One low-decile primary school in a rural town has recently appointed a full-time kaiawhina to the staff, with responsibility for encouraging parents to be involved in the school and in their child's learning. They are aiming for 80 percent attendance at parent/teacher interviews.
- At Hamilton Girls' High School an analysis of NCEA results identified poor attendance as having a big impact on achievement. A school-wide focus on attendance has given students the clear message that it is important to be at school and in class. Senior students cannot attend the school ball unless they have a strong attendance record. Data show this consistent focus has worked. Increased attendance has contributed to achievement increases, thus contributing to a positive spiral of change.

A focus on lifting achievement

Some early adopter schools have implemented "strengths-based" initiatives that contribute to students' sense of success and belonging at school by naming and highlighting a wide range of positive behaviours and achievements. A focus on the use of achievement data to identify and address specific learning needs is also seen as an important engagement strategy so that students do not get turned off by failure or, conversely, by learning that does not challenge them. Some secondary schools have paid careful attention to the ways they structure different learning pathways through the senior secondary school, to keep all students on positive learning trajectories as they head towards their post-school years. In many cases these initiatives have been accompanied by new and improved mentoring processes designed to help students make good choices and keep them on track with their learning. This increase in the provision of pastoral care is often achieved by drawing a wider range of the school's adults into the mentoring process:

- Secondary teachers at the Auckland workshop were very aware of the research carried out in partnership between the Starpath research team and the staff at Massey High School. They described the research focus on the use of data, individual mentoring and planning of learning pathways and they were aware that co-ordinated changes in these areas had led to increases in student achievement (McKinley et al., 2009). This is a project that seems to have caught the attention of teachers and school leaders, at least in the Auckland region.
- One city girls' high school has recently appointed a mentor for eight hours a week to work with Māori students in the junior school. The school leader who described this initiative said it was too soon to evaluate its impact on academic achievement.
- Once a term the students plan and lead a celebration assembly at Taihape Area School. A wide range of successes are named and celebrated, including notable academic achievements as well as more traditional sporting, cultural and leadership successes. There is also a family award for involvement and contribution to a nominated event. Parents are free to attend and some do.
- A similar process was in place in an urban primary school. The aim was to celebrate success where this included full attendance, involvement in community and sporting activities and academic achievement.
- One high school in a provincial town carefully tracks the achievement of *all* students. The principal noted that their Māori student achievement patterns were on a par with those of the other students in the school and achievement rates overall were above those of similar schools in the surrounding geographic area.

Creating a sense of relevance and connectedness: “Student voice” initiatives

A wide range of different types of initiatives can be grouped together here. They have in common a broad focus on *the New Zealand Curriculum* vision of students being “confident, connected, actively involved, lifelong learners” and they seek to give effect to this vision in at least four different ways.

Student leadership opportunities/student consultation

Giving students opportunities to take leadership roles could be seen as a traditional means of engaging some students in school but it has typically been reserved for a privileged few students who arguably were chosen because they were already engaged with and successful at more traditional learning (and in some cases sporting) activities. Giving effect to *The New Zealand Curriculum* has led to some interesting differences in ways student leadership is envisaged and enacted. One difference is that a number of early adopter schools have used student leaders to draw other students, and in some cases parents, into conversations about the school’s curriculum, with the aim of ensuring that learning is seen as relevant and engaging by as many students as possible:

- At Wanaka Primary School a student “curriculum leader” group is consulted by the staff as they develop or review pedagogy and curriculum. These student leaders consult their peers and report back and they have also been involved in parent consultation processes.
- At one urban high school the specialist classroom teacher workshopped the meaning of an “effective teacher” with senior students, who then ran focus groups for Years 9 and 10 classes to explore the ideas that emerged. Students came to realise that “being organised” was not just about being tidy but rather focused on use of time, clarity of thinking and so on. The results of this extensive student consultation process were summarised in a poster designed by technology students.
- One city girls’ college has had a sustained professional learning focus on “student voice” challenges. The teachers recently rewrote all their course descriptions in response to feedback that some choices had not turned out to be what students expected. Each course now clearly states what students can expect to learn and do in language pitched to them, not their parents or other teachers.

Positive outcomes from these types of activities include stronger student understanding of the school’s big-picture goals. In the case study schools, student leaders we interviewed could talk about the key competencies, the meanings of their school’s vision and its representation (for example, a motto or a visual metaphor). They could also talk about the idea of lifelong learning, using language that comes from *The New Zealand Curriculum*. These students reported increased self-awareness about their management of learning. Evidence that a shared language of learning had been successfully developed was particularly evident in early adopter primary schools.

Inquiry learning/learning in engaging contexts

Here the “voice” of students pertains to the identification and pursuit of questions that interest them and that, at best, link meaningfully to their lives beyond school. Many of the early adopter schools first engaged with inquiry pedagogies via ICT professional learning programmes in which they had taken part before *The New Zealand Curriculum* arrived in the school (Cowie et. al., 2009). ICT providers often presented ready-made models of inquiry but schools have typically critiqued these and evolved their own models as their understanding of the inquiry process and the role of key competencies in the curriculum has deepened over time:

- One low-decile primary school uses art and drama, and environmental gardens as a beginning point for children’s literacy development. Learning is linked with students’ interests to build their confidence.
- Student inquiry programmes are often designed with an initial focus on a “big idea” which can be taken in different directions in different classes, according to student and teacher interests. The four issues listed under the *future focus* principle have provided a starting point for this curriculum planning in a number of schools. For

example, one multicultural city primary school developed a range of inquiries around the broad theme of “a change for the better”. Students explored what they could do to make the school a better place. Some worked on improving the social environment and others on the physical environment.

- An inquiry skill or disposition might be a specific focus for development, and the process of fostering this might extend over several units of learning, as in the vignette in the box on the next page.

Fostering curiosity and independence through inquiry learning: A mediated conversations vignette

The teacher from this small high-decile primary school on the outskirts of a provincial city described one unit of work in a series of science inquiries undertaken by her five-year-old students. Each inquiry sought to foster student curiosity and the teacher emphasised that she valued the process of play, which she considered to be age-appropriate and congruent with the key competencies. She sought to maintain a balance between structure and more open exploration. The first two science units focused on questioning and research. Throughout these units she had maintained a reasonably tight guiding hand, although the topic of the second unit (insects) came about when a large beetle walked out from under some cushions being used during a whole-class discussion. For the third unit the teacher allowed more student initiative and independence. The rich learning that had taken place was the focus of the story she told to the group. The children, in pairs, identified a topic of interest. These included flight, ice, machines, change and rocks. Within a play context she guided the children to pose and explore their own questions. For example, students interested in rocks photographed these around the school grounds and asked questions about why some were smooth and some rough. Students interested in “change” observed and asked questions about the changes when egg whites were beaten to a meringue. Examples of students’ questions developed after playing with toy cars as part of the machines topic were “Why can’t cars go down steps?” “Why don’t cars go up ramps and they do go down?” “When I push it up it goes back down again. Why?” “Why won’t cars move without wheels?” Examples about flight were “How do planes fly?” “How do bumble bees fly?” “Why don’t Knex cars fly?” “Why don’t roadwork cars fly? It would be cool if they did.” “How do you make a parachute?” “Why does the parachute work?” While pairs worked on topics, very often the whole class was involved in the same activity. One example was that all of the students made and tried to fly parachutes from plastic bags. Eventually most of the children brought in examples from home about each other’s topics. In one case a student’s grandparents provided goose eggs for investigation. The students shared what they brought at news time. During news time the designated student photographer recorded what was talked about and these photographs cycled on the class computer during the day to provide an ongoing focus for discussion amongst the children and with parents when they came to collect their child. The teacher’s summation was that the unit had been productive because the students were able to bring their earlier learning to bear and because she had encouraged play prior to and as part of the students posing and seeking to explore their own questions.

Self-regulation, learning to learn

The “voice” component here entails supporting students to increase their self-awareness and ability to regulate their own behaviour and thinking. Beginning with simple ideas related to the key competency *managing self*, early adopter schools have often developed deeper insights related to increasing student agency and autonomy. ICT technologies are increasingly being used to help students capture and reflect on their learning through the use of wikis, digital photographs, video recordings and so on. There is explicit recognition that these technologies deprivatise learning, allowing students to share emerging ideas and questions with each other and with external audiences; for example, parents and students from their own and other schools:

- At many primary schools, students have adopted a simple shared language of learning. In some of these schools students also use feedback about their current performance to set their own next learning steps.
- Two primary schools in different geographic areas have used the same idea of values (as “kinds” (see Section 5) to develop a language for encouraging, modelling and exploring values in the school. One of these schools has enlisted the school cat to develop the idea of kindness to animals.
- In one high-decile city primary school the senior students regularly upload to their e-portfolio something related to their latest learning inquiry. They write a commentary on this artefact and the teacher works with them to make the commentary “really valid”—that is, about an aspect of their learning. The teacher then adds to the commentary and parents can also comment if they so choose.

Responding to diversity

The “voice” component here relates to a responsiveness to individuals that is underpinned by ideas about cultural differences and differences in learning needs. The idea of “culturally responsive pedagogy” developed in projects such as Te Kōtahitanga and Te Kauhua has struck a chord and their general principles have been widely embraced by the early adopter schools:

- In 2010 Alexandra Primary School set up a Years 7/8 boys-only class in response to the perceived needs of the current student cohort, as had at least one of the schools involved in the workshops. Staff at Alexandra Primary planned to review this at the end of 2010, before deciding whether or not to continue the class in 2011.
- One primary school in a rural town modified lunchtime physical activity from the more traditional sports to include an inclusive Māori game that caught the students’ imagination. This game is now widely played in the local community, and sets of gear are kept at the local marae so that the community can also play.
- Hamilton Girls’ High has been trying out approaches to differentiating learning to meet the needs of different students. Trials of highly structured learning (for example, guidance in constructing NCEA Level 2 essays in media studies) proved to be very valuable for some students but a turn-off for those who did not need this level of support. Realising that one shape/structure wouldn’t fit all, the teacher carrying out this trial began offering a choice of structured questions or an open essay in some assessments.

A focus on effective pedagogy

Participants made strong links between student engagement and *effective pedagogy*. Once schools have got past the first exploration of the *New Zealand Curriculum* “big picture” (vision, values and principles) they appear to be increasingly turning to the idea of changing pedagogy as the means of bringing their big-picture thinking to fruition. A focus on student self- and peer-assessment, as promoted in many school-wide professional learning programmes, has resonated with participants’ concern for student engagement via greater ownership of their learning. The use of reflection strategies such as split-screen thinking provides evidence of changes in engagement, and these data are used to complement traditional achievement data.

Ascertaining how students have understood the intended learning is signalled as a key component of the “Teaching as Inquiry” model in *The New Zealand Curriculum* (Ministry of Education, 2007, p. 35). As discussed in Section 7 we found instances of systematic use of this and other professional inquiry models in both primary and secondary schools. Documenting evidence of improvement in student engagement is seen as a powerful motivator for teachers to continue with their implementation efforts.

Commentary

Consistent with the current literature on engagement (Finn & Kaska, 2009; Fredricks, Blumenfeld, & Paris, 2004) schools and teachers are conceptualising student engagement as a complex construct that has cognitive, affective, relational and behavioural dimensions. Participants considered that their behaviour management and pastoral care practices had implications for the nature of student engagement in both the short term and the longer term. These practices are seen to shape student aspirations and their sense of themselves as people who are able to take responsibility for their learning and actions.

Participants often commented anecdotally that they had seen lifts in student attendance and motivation, including for Māori students, as a result of the types of changes and implementation initiatives outlined above. Some teachers said their class now had different dynamics, with students more positive, enthusiastic and curious. Some schools were collecting student engagement data and it was becoming more common to survey students about their learning: for example, Alexandra Primary School used a modified version of NZCER’s Me and My School survey tool to collect engagement data as a baseline for the boys-only class. The plan was to compare this to later data. Wanaka Primary School used *Survey Monkey* to conduct student-led surveys about learning and engagement, with students then reporting findings to staff. In many schools, attitudinal aspects of engagement such as taking responsibility are now being assessed formatively as part of key competency goals. One assumption that follows from gathering evidence of increased engagement is that this will subsequently be reflected in increased achievement. However, schools are mindful that there can be a lag as children make up for lost time. Some teachers said it was “too soon” to expect lifts in achievement. Some schools (for example, Taihape Area School) have found it takes four or five years of concerted attention to engagement before the payoff begins to be seen in lifts to achievement.

There is some debate about whether schools need specific goals for their Māori students, differentiated from other school-wide goals. Some do not differentiate, believing that the same high expectations should be held for all students. Interestingly, only one school leader described an initiative that could be described as meeting the challenge of allowing Māori students to succeed *as Māori*. In all other cases “success” was described in more traditional academic terms. At least one other school leader was aware of this challenge, saying that her school had evidence that their Māori students were achieving as well as other children, but perhaps doing this by “taking on a white face”. Her goal was that they be able to achieve *as Māori*. There is clearly a need for ongoing conversations about what this might mean and it also raises interesting skills and capacity issues.

One strategy some of these schools have used effectively is to give management responsibility to teachers who can support the school to form partnerships with iwi and whānau, or support teachers to develop further competence in te reo and tikanga Māori. For example, the Te Kauhua facilitators at Taihape Area School were employed beyond the life of their initial contract and a number of other schools have employed Māori teachers for specific leadership responsibilities to build practice and cultural competence across the school.

4. The benefits and challenges posed by community engagement

How are schools engaging with their communities to inform their local curriculum and what are the processes, barriers and enablers to this?

One of the eight *New Zealand Curriculum* principles requires schools to engage the support of students' families, whānau and communities to help ensure that the curriculum has meaning for students and connects to their wider lives. This principle thus takes account of input from members of the community *outside* the immediate school community (where insiders are the staff and students in the school). Engaging students as members of the school community has already been addressed in Section 3 and we have taken the above research question to intend a focus on the wider community: that is, those who have an immediate local interest in the school and its students (i.e., they could be seen as stakeholders in this school).

One interesting practice that does not fit with our approach should be noted. Some of the CIES schools have taken steps to ensure that everyone working *inside* the school is involved in curriculum decision making and enactment, not just the teachers. In these schools, office staff and caretakers, for example, might take part in *The New Zealand Curriculum* discussion meetings, act as student mentors alongside the teachers or teach knowledge and skills in areas where they have specific expertise. We found examples of this at both primary and secondary levels.

The nature of engagement with the wider community

In a short synthesis of several research projects that focus on community engagement Bull (n.d.) identifies a continuum of possibilities for stakeholder engagement, from approaches and actions that essentially inform, to those that open up more *participatory interactions* between the school and its community:

- informing parents about curriculum developments at the school
- involving parents in a two-way exchange of information intended to better support students' learning
- consulting parents about the vision, values and overall direction of the school's curriculum, and including their input in the processes used to shape relevant documents and school-wide practices
- providing the community with the skills, information, authority and resources to work with the staff to make decisions about the curriculum and learning at the school.

The eight *New Zealand Curriculum* principles are broad and so all of the above purposes could be seen as relevant to addressing the *community engagement* principle. All the early adopter schools had actively embraced the challenge posed by this principle, and most had addressed several of the purposes outlined. As the following summaries show, *The New Zealand Curriculum*-related activity has particularly focused on the first three of the above purposes, but we have examples of all of them. In primary schools parents support the learning process but they very rarely get asked to contribute their knowledge to the curriculum or to the construction of the curriculum

Informing parents about curriculum directions

In the schools involved in this study, the use of newsletters to inform parents about school activities in general, and aspects of curriculum in particular, is common practice. This is doubtless true of many New Zealand schools and is not necessarily related to *The New Zealand Curriculum* implementation. Nevertheless, it is one avenue that has been used to

communicate schools' explorations and decisions in relation to *The New Zealand Curriculum*. In some schools, printed letters have been largely replaced by emailed versions or blogs.

Some schools are endeavouring to share what teaching and learning looks like in different learning areas. For example, one school takes one learning area per term as a meeting focus. In another school, the English faculty ran a "dads and lads" night to encourage reading and guest speakers were invited to talk about home-school partnerships.

A number of schools have revamped their websites to make them more attractive and accessible to their parent community and stakeholders. Typically this involves adding features that could attract adults and students to the website, and hence to the information the school wishes to share. One "carrot" might be providing parents with access to their child's attendance data. Although essentially information giving, this could open up more interactive conversations, particularly where schools have made a concerted focus on improved attendance as the first step to increasing student engagement with learning (see below and Section 3). Some schools are also using their website to inform parents about the learning programme in each classroom with the aim of making classroom practice more transparent. Communication avenues include individual classroom blogs, Web pages or examples of work on which parents can comment.

The use of occasional surveys to seek feedback and new ideas is also relatively common, especially when schools are first exploring the big ideas of the curriculum and linking these to their own vision and values. However, a senior leader from one high-decile secondary school commented at some length on the challenges and limitations of the survey approach. She noted that they "get data, but not a lot of valid information about how parents are thinking about and understanding *The New Zealand Curriculum*". She also noted the legal responsibility to consult on the health curriculum annually but said poor response rates were typical (8 percent of parents attended the last evening; 12 percent returned a postal survey). This school is planning to trial an online survey next time, and is considering email as a vehicle. We have included such practices as basically informing parents, even though some level of response has been invited, because parents may never know how their responses are used (or not), and in some cases they are responding to decisions that have already been made.

Involving parents in supporting students' learning

By including ideas such as *learning to learn* (one of the eight principles) *The New Zealand Curriculum* has invited closer scrutiny of learning per se. (This finding is further elaborated in Section 5: Iterative exploration of the key competencies.) When combined with the *community engagement* principle, this learning-to-learn focus has typically resulted, amongst other benefits, in a more deliberate targeting of the positive role that parents could play in supporting students' learning. This role is not new for many parents of course: what is new is the greater attention and effort being given to make home-school learning conversations the accepted norm for *all* students in all types of school communities, and to make them more meaningful and rewarding for everyone involved. At the very least, most CIES schools have worked hard to gain some level of involvement from parents whose own experiences of learning might not have been very positive, or who face considerable practical hurdles to make the time to get into schools during the working day.

Getting parents into school and making them feel welcome

Many of the CIES schools were trying hard to encourage parents to participate in face-to-face conversations about their child's learning. At its most basic this could be simply taking opportunities to talk to the teacher at some time in the school day. Several school leaders described having an "open door" policy to encourage this practice:

- Taihape Area School has taken advantage of building a new school to structure its communal spaces to make them more attractive to community members who might wish, for example, to come and share lunch with students, or just to browse the attractive work displays to be found there.
- One school with a high number of Pasifika students runs a homework centre through church, and sees this as one way of connecting to parents and encouraging them to share conversations about learning.
- One younger teacher from a low-decile primary school in a small town said he regularly texted parents with short positive messages about specific learning successes and almost always got immediate responses. Such beginnings can lay a foundation for making parents feel more welcome at school.

Drawing parents into organised school meetings has proved to be more challenging. Practices that have been successful in doing this include offering incentives such as food, social events, a showcase of children's learning, or student performances as part of the meeting.

Other ideas include:

- Taihape Area School has a standing invitation for parents and whānau to attend the student-led “celebration of learning” assemblies held each term and some do come.
- One primary school organised a hui with Māori parents but only 20 attended. They tried again but next time babysitting was provided and the timing changed. As a result, 60 parents attended.

As already noted in the section on student engagement, some school leaders described their proactive involvement with parents, whānau and iwi in cultural spaces *of the community's choosing*, where they might be the ones not in their habitual comfort zone. At Taihape Area School staff met with the members of several local iwi during separate noho marae (one with each iwi). The school's Te Kauhua facilitators were instrumental in setting up these events. Another secondary school principal went “up river” with a small senior management team, to meet whānau in their own communities. The schools in Cromwell had developed a process whereby, rather than each school having a separate consultation process with iwi, all schools met together with representatives of the local iwi to discuss educational goals. Other schools have employed a Māori staff member with specific responsibility for visiting local whānau with the aim of building learning partnerships.

Adopting strengths-based approaches

The focus on “potential” and “strengths-based” approaches to achievement in schools, as supported by recent policy initiatives such as Ka Hikitia and pedagogical initiatives such as Te Kōtahitanga, is helping reframe the *nature of* school interactions with the parent community. In the early adopter schools it is now common to see a focus on reporting successes and involving parents in forward-thinking goal setting. This is in contrast to reporting problems and seeing student behaviour or achievement in deficit terms. By placing students at the centre and aiming to develop “confident connected lifelong learners” *The New Zealand Curriculum* aligns with and reinforces this shift. The shift has typically resulted in increased involvement of parents.

Changes to reporting processes

Schools are exploring ways to extend learning conversations designed to empower students (see Section 3) to include their parents as well. Doing this has typically involved a rethinking of the processes used to communicate achievement to parents, and in some cases of the intended outcomes of any such communication:

- Three-way (student–parent–teacher) or four-way (student–parent–teacher–dean/mentor) reporting processes have been introduced in many of the CIES schools. Multiple potential benefits make them an attractive proposition. These conferences were the main way teachers engaged parents and whānau in dialogue about their child's

learning in relation to the learning areas, as well as reported to parents about this learning. In secondary schools three- or four-way reporting could assist students (and parents) to make more strategic subject/NCEA/ pathway choices and for primary schools, more interactive reporting processes can provide a useful foundation for the reporting practices required by National Standards (see Section 9). A number of schools had used the opportunity provided by these conferences to involve parents in recent changes at school: for example, adapting conferences to include goal setting and reporting in relation to the key competencies for home as well as at school (see Section 5).

- Hamilton Girls' High has changed from a traditional "report night" format to holding open days in which the school invites "learning conversations" *with* parents rather than simply reporting *to* them. Teachers are available all day and parents can book a longer time slot that is convenient to them. The principal estimates that this strategy has increased parental participation by between 25–40 percent.
- A number of schools have become more proactive about engaging parents to assist in addressing learning needs. If a particular learning need for a child is identified, the school contacts the parents to have a discussion about how they might work together. Teachers might also offer ideas about games or tasks that could be done at home to assist the child.
- Tweaking the timing of steps in the process can act as a powerful carrot for parent attendance. For example, Cosgrove School shows students their reports and supports them to prepare for their learning conversation. Parents see the report when they attend the conversation.
- Some schools are using portfolios as a means of documenting learning in a format that can be readily shared with parents. Electronic portfolios can be used to invite online interaction and have the advantage of being accessible and able to be updated at any time. The workshop vignette in the box below illustrates the potential of this type of development.

E-portfolios and self-regulated learning: A mediated conversations vignette

One deputy principal of a high-decile urban primary school explained how his pioneering interest in e-portfolios is now spreading across the whole school as part of their curriculum implementation journey. The teachers have focused on self-regulated learning as an idea that combines key competencies with principles such as *learning to learn* and *high expectations*. The senior students have all had the experience of uploading something related to their latest learning inquiry. Each student writes a comment on the artefact they have uploaded and the teachers are working to support them to make these comments "really valid"—that is, about an aspect of their learning. The teacher adds to this commentary and parents can also comment if they so choose. This school has a boys-only class at Years 5–6 and these students typically have specific language/literacy needs. The deputy principal described how these students uploaded photos they were proud of, using a programme called Photo Story. They talked about their learning while he wrote the narration. He said parents were "over the moon" to see the results and he expressed the hope that they would not just focus on National Standards reporting when the "richness" of students' learning-to-learn progress was so readily available for parents to see. The school has recently purchased easy-speak microphones with a USB port. This new technology is making the integration of spoken comment and written or pictorial artefacts even simpler, and the use of e-portfolios is now spreading through the junior primary classes in the school.

The community as an “authentic audience” for demonstrations of learning

Some schools are very aware of the opportunity to use parents and other members of the community as an “authentic” audience for student demonstrations of learning and achievement. Again, this type of outreach is not new. Certain sorts of events—for example, periodic rehearsed performances in the arts—have always served this role. What can be new is extending these demonstrations to include curriculum area learning:

- reporting the results of an extended inquiry in an original manner (for example, Wanaka Primary School holds WoW days at the local mall that showcase students’ work to the wider community)
- displaying design ideas and/or products from technology projects (and sometimes creating these for members of the community who were the “clients”)
- sharing creative writing or original compositions in dance, drama or music.

A parent and whānau audience can be a powerful motivator for students when demonstrating their learning in this way. In some cases students’ Web 2.0 writing has involved a much wider virtual audience and students have also found this very engaging.

Given that the focus of this section is a discussion of *partnership*, it is important to note that parents and whānau who take part in these events can also potentially learn more about the intended outcomes of learning. Greater understanding of intended outcomes could strengthen their ability to support their child at home, or at the very least to contribute in a more informed manner to conversations about the learning. Sometimes the benefits for students and the wider community are brought together quite deliberately—for example, when students construct a newspaper that describes developments in curriculum and learning at their school. In one low-decile primary school, students script and deliver a daily TV broadcast about their learning on a local channel: this initiative was deliberately designed to have outreach benefits, as well as providing rich opportunities to strengthen students’ literacy skills (see Section 3).

Engaging parents in shaping the curriculum “big picture”

As we reported at the conclusion of the first round of the CIES study, the “front end” of *The New Zealand Curriculum* has acted as a powerful catalyst for wider community conversations about school vision and values (Cowie et al., 2009). The key competencies have been a particular focus of interest and processes used to introduce these to parents are discussed in more detail in Section 5.

Going a step further than simple surveys (see above) some schools provide a “frame” for feedback by putting up ideas then asking parents to reflect and respond, identifying any gaps or additions they could think of.

Illustrating this, one large urban secondary school has recently trialled the use of email surveys using *Survey Monkey*. One such survey focused on the question “What makes a successful learner?” Respondents were asked to rank what they saw as important for students to learn at school. Disappointingly, the survey received a poor response and those responding were often parents of gifted and talented or high-achieving students. Nevertheless the parents’ ranking of items was different from that of students and teachers’ ranking were different again, which made for an interesting data set for the *staff* to discuss.

In some CIES primary schools, students have been enlisted to support these consultations. Students learn interview techniques and then question their parents about aspects of the school’s curriculum development or ask parents questions designed to assist in developing a vision for learners such as “What makes a good learner?” or “What are the sorts of skills and competencies you need in your work and home life?” This information is then used to inform the development of the school vision.

The processes described above are partly interactive, in that parents have the opportunity to contribute what they want to say, but the ultimate use of that input remains the province of the school staff.

Parents as contributors to the enacted curriculum

There are at least two ways to think about this particular form of community engagement:

- Members of the community can be a resource for and contribute to students' curriculum learning.
- The community could be proactively involved in making the decisions that determine overall curriculum approaches, and sometimes more specific content.

We have already noted that this form of participation is not yet very common, but there are some examples to share.

The community as a *resource* for students' learning

One simple form this can take is to set homework that requires students to consult parents and whānau and bring the material or insights they gather back to school to contribute to some form of collective inquiry.

Another form is where parents or members of the wider community have a specific type of expertise, they may be invited to take part in a class inquiry project as an expert contributor. For example, during an outdoor education class at Taihape Area School, the teacher worked alongside a kaumātua who shared his knowledge about the significance, to the local iwi, of local land forms. A number of primary schools also use the conservation knowledge and expertise of local community members where studies involve a focus on local flora and fauna.

Alexandra Primary School has formed a partnership with the local library to support students to develop the information literacy skills needed for student inquiries. The teacher assessed students' information literacy skills. Each student was given their results. The local information librarian, students and the teacher worked together to analyse the results for individuals and for the class as a whole. They then designed an approach to build students' skills in key areas. The teacher considered this process built students' skills and resulted in students knowing where they were at, and having ownership over class and individual goals.

Community contributions to *building* a local curriculum

Instances of participatory decision making being used to determine curriculum directions (and in one of the following examples, in making assessment decisions) are not yet common but appeared to be powerful for the schools that had undertaken this process. Many of the examples we heard about described how schools were seeking the involvement of iwi and whānau in shaping school directions. By Round Three of CIES we were seeing more examples of schools working with Māori facilitators or staff who acted as a bridge between school staff and whānau and iwi:

- Before the revision of *The New Zealand Curriculum*, with the support of Te Kauhua facilitators, Taihape Area School had consulted local iwi about their wishes for curriculum development at the school. The iwi said they did not want their children to be adults before they had opportunities to encounter the values of their own people (as had happened to some of them). The outcome of these processes was the development of the school's mokai pateā curriculum. This is a statement of four key values that underpin school practice and which map to the key competencies. These values are displayed in every classroom and are a powerful felt presence in the life of the school. The school subsequently ran a series of noho marae, and all the teachers attended at least one, so they have developed a shared understanding of the perspective and values of the local iwi and what the mokai pateā curriculum means. One teacher described the explicit use of the four values as a social science learning resource, and they were evident in many ways in the wider school climate and practices that supported learning.

- One low-decile urban school has developed a “self-learning lens” that puts the students at the centre of a network of learning support that includes home and whānau, culture and heritage, spirituality, values and beliefs, identity, self-efficacy and potential. The school community has developed these ideas into an assessment tool that allows students to self-reflect, and to hold high expectations and work towards achieving their personal and collective goals. The tool allows staff to plot student progress over time. Initially, judgements were based on teacher observations but the schools have now expanded the process to include students and whānau in making the judgements of overall progress.
- A second area of potential community contribution to curriculum directions relates to the establishment of more effective pathways from secondary schools to work. For example, Morrinsville College has worked with NZ Dairy, as a significant local employer, to ensure that clear career pathways are available for students from the school. Taihape Area School has similarly made connections with Ruapheu Alpine Lifts Limited and other local businesses and employers to better tailor their learning programme to local career opportunities. The workshop vignette in the box below describes a similar initiative involving multiple potential employers in one city.

Pathways for differentiated learning: A mediated conversations vignette

This large urban secondary school had already developed differentiated learning pathways for students prior to the introduction of *The New Zealand Curriculum*, working in partnership with the community. It is not so much that *The New Zealand Curriculum* has enabled these developments as supported them and allowed them to flourish. The intent was to ensure that students, regardless of ability, maintained a focus on academic achievement. Pathways initiatives include the formation of a business school catering for Years 9–13 students, supported by significant private and individual funding and by two nearby universities that offer fees scholarships and other assistance for enrolment in their respective business faculties. The catering and hospitality school has a commercial kitchen teaching to Level 3 ITO standards. The construction school is also funded by private enterprise and offers pre-apprenticeship courses, using construction projects as the focal point of students’ learning, integrated across the various learning areas, including English, Mathematics, Business and Physical Education. The school also has a services academy that offers a half-year programme for school leavers seeking a career in the Army, Navy or Air Force. The course focuses on career pathway, academic achievement, physical fitness and discipline. Providing these different pathways has involved timetable modifications to ensure access for students. Innovations include double periods to deliver hospitality, construction classes run outside the main timetable and feeder lines in the programme to ensure there are opportunities for students to sample new courses.

The challenges of community engagement

The New Zealand Curriculum has clearly acted as *one* catalyst for increased levels of interactions between schools and various members of the local community, and in particular for embracing the challenge of reaching out to Māori whānau and communities. Other catalysts have included Ka Hikitia, with its focus on realising potential rather than remedying deficit and Education Review Office (ERO) reports that have highlighted issues related to Māori student achievement and made suggestions about how the schools could increase their focus on supporting Māori students and consulting with the community.

As with so many other aspects of curriculum implementation, in some schools *The New Zealand Curriculum* has acted to provide additional support and impetus for directions in which the school was already moving. In primary schools *The New Zealand Curriculum* must now be implemented alongside more recent policy, specifically the introduction of National Standards. This new initiative explicitly requires schools to consult more meaningfully with parents. It is not possible to disentangle these and other influences but we can say that *The New Zealand Curriculum*, of itself, supports these other developments and is broadly congruent with them.

Gaining active participation of parents may not be easy and schools' well-intentioned efforts are not always rewarded with high participation levels. Schools might give any combination of the following types of reasons to account for this:

- Low literacy skills in the community were identified as one potential barrier to community engagement. Leaders of schools in areas of high poverty said they did not want to “dumb down” communications, but found traditional print-based methods of getting feedback and input of new ideas to be less effective in their school context.
- Young parents with negative memories of their own relatively recent school experiences were seen as cautious about engaging with one low-decile school.
- At least one school leader noted that parents who are worried about “who will pay for the next breakfast” are not likely to be easily engaged with curriculum and learning issues.
- Enrolling urban students from out of zone can discourage attendance at evening meetings.
- Some participants saw seeming parental indifference as positive: “Parents trust teachers as professionals.”
- Another positive reason could be that students are seen to be learning to think independently and do not welcome their parents' involvement once they can make decisions for themselves.

One challenge that was not mentioned by schools, but seems evident to us from our analysis, is that some schools may be hampered in certain aspects of community engagement by a lack of clarity about the *purposes* of such activity and what should ultimately be achieved. Our findings show that schools that have embraced *The New Zealand Curriculum* are exercising considerable ingenuity in strengthening conversations with parents about their own child's learning. This aspect of partnership makes sense to all involved and the problems to be solved are mainly of a practical nature. However, in all the cases where schools involved parents in more substantive decisions to determine actual curriculum directions, they were prompted to begin this outreach from a “crisis turnaround” position—students were truanting and overall achievement was low. Three schools that described partnership activity focused primarily on building the substance of the local curriculum (one area, one middle and one primary school) all readily acknowledged that the impetus for change was the poor image of the school held by the local community. Each of them has gone about addressing the situation in a focused and creative way, and none has taken the same approach. We wonder if having a sense of need and purpose such as this might be one critical ingredient in subsequent success in gaining more interactive parent participation. We think this could be an interesting question to explore further.

Tensions between improving and transforming the curriculum raise some interesting challenges for approaches to community participation. If the desire for change comes only when the need is evident and urgent, *not* perceiving the school to have a compelling need for change might be a barrier to eliciting greater parental involvement in building a local school curriculum. Teachers' "positive" reasons for lack of parental participation (for example, they are happy with how things are now) certainly point in this direction. Where schools are successful in engaging parents in more traditional learning conversations, high levels of current satisfaction might inadvertently act to strengthen constraints against more transformative curriculum change. (Why change what's working well?)

However, even where schools understand the responsibility that *The New Zealand Curriculum* places in front of them to build a curriculum that is demonstrably responsive to the learning needs of their own students and community, and indeed of all students more generally in "21st century" social conditions (as suggested by the front part of *The New Zealand Curriculum*) school leaders may need to develop new types of "skills, information, authority and resources" (Bull, n.d.) to support the local community to make collective decisions about the curriculum and learning at the school. Many in the community may also need to develop these skills, but our focus in this project is on the actions and decisions of school leaders and teachers.

Illustrating this challenge, the issue of differing parental expectations about what constitutes a "good curriculum" was raised by one workshop group.² Resolving a situation where such differences surfaced would require skills for working with diverse community members to clarify competing values positions to reach some form of consensus. Many school leaders would need professional learning and support if they were expected to successfully do this themselves, or to lead the process with input from other teachers.

One possible approach to this challenge, used, for example, by Albany Senior High School, is the "world café" process. This is a highly structured process to explore ideas in ways that make space for different perspectives and mix people into different groups for different stages of the conversations. The process has worked very successfully to facilitate wider community conversations about the innovative curriculum established at this school. The school leaders had the necessary skills but they also had the necessary authority. This came from a combination of influences that included MOE plans to construct different types of learning spaces for the school, and the professional learning and reflection the foundation staff undertook to develop a shared understanding of the challenges facing all secondary schools in the 21st century. However, generalising from this context requires caution because this is a new school that had to start "from scratch" to build a local curriculum. As in the "crisis turn-around" schools, there was a clear and compelling reason for involving the community in curriculum decision making.

It was very evident that the school leaders who had successfully engaged with their Māori community displayed strong cultural competencies. One small-scale research project has recently described such competencies as being displayed by leaders who can "walk tall and talk small"—that is, a particular combination of confidence-inspiring leadership and the ability to sit back and let others take the lead when necessary (Yukich, 2010). This ability to let others lead when appropriate was a characteristic of a number of the CIES principals who had allocated management units to Māori staff or employing facilitators to work alongside them as they forged stronger connections with whānau and iwi.

² It may be that this is somewhat more of an issue for secondary schools. In the 2009 NZCER National Survey of Secondary Schools 24 percent of principals and 28 percent of teachers agreed or strongly agreed that "Our community is divided/contains groups with conflicting wishes". In the 2010 NZCER National Survey of Primary Schools 18 percent of principals and 17 percent of teachers agreed or strongly agreed with this statement.

What now?

As the title to this chapter suggests, community engagement can have substantial benefits as well as challenges. At some schools we heard statements such as “parents are too busy” or “our parents are not interested”. However, we also heard stories of deep commitment to finding a way to engage with *their* community and about a range of innovative practices that were designed to support the school to better engage and work with their community. These examples of evolving practice are spread across different levels of the school system. In the classroom, three-way learning and goal-setting conferences between students, parents and teachers are increasingly becoming a key point of connection and co-construction. At the school-wide level a number of schools are evolving more meaningful ways to engage in dialogue about learning and education with local iwi. Clarifying the range of purposes for which the community might become more involved in building and enacting a local curriculum could be a productive next step to capitalise on these positive gains.

5. Iterative exploration of the key competencies

How are the key competencies being explicitly planned for and developed in and across the learning areas?

How schools have engaged with the key competencies

The key competencies are widely seen as one of the “new” aspects of *The New Zealand Curriculum* and so have been a common entry point for many schools’ exploration of *The New Zealand Curriculum*. They have been one of the central drivers for schools in terms of transformation and change in curriculum and pedagogy.

Developing an understanding of the nature of the key competencies and what they mean for learners has been a common starting point for professional learning. In sessions facilitated by school leaders, teachers have worked together to unpack each key competency and to develop a shared language they could use to talk about them with students and families. Schools have used different processes to do this but typically have explored them one at a time, iteratively extending this exploration process over a term or in some cases a whole year. As they worked through these processes, many schools have embraced the key competencies as means of engaging students. Some put considerable energy into the development of their shared language or visual metaphors to open up conversations with students, and in some schools with parents and whānau, and in at least one school, with the local iwi.

Once schools and teachers have moved past the need to understand the nature of the key competencies, their focus has typically turned to their use as a means to rethink practice. The first stage of the CIES project reported that “early adopter” schools were likely to have been engaged in an ongoing self-review process prior to the arrival of *The New Zealand Curriculum* (Cowie et al., 2009). As part of this process many were already exploring new views of learning and related pedagogies and practices prior to the introduction of *The New Zealand Curriculum*. A powerful cycle of iterative learning takes place when schools connect their further exploration of the nature of the key competencies to this earlier professional learning. For example, key competencies have now been connected to ideas about lifelong, 21st century, or self-regulated learning, including Guy Claxton’s ideas about learning power. In consequence, schools might next consider how the key competencies are related to, and might transform, existing practices in areas such as inquiry learning, student goal setting, self-management approaches or formative assessment. School leaders have been strategic in making these connections to ensure that teachers see how key competencies sit alongside, as well as stem from, developments related to professional learning contracts such as ICT, Assess to Learn (AToL) or literacy professional development.

The iterative cycles of learning entailed in approaches to exploring the key competencies are supporting schools to live the *learning to learn* principle of *The New Zealand Curriculum*. From these experiences, school leaders and teachers in the case study schools, and from the workshops, have come to see the key competencies as central to empowering students and developing self-managing and lifelong learning skills and inclinations. For some teachers, consideration of ways to make explicit and strengthen students’ competencies has imbued existing pedagogy and learning with powerful new meanings and a redirected sense of purpose.

As outlined above, exploration of the key competencies has typically started in the context of the “front end” of the curriculum, and only subsequently turned to the learning areas. There was no sense that teachers and leaders considered they had completed this process, even though most schools in the study have already worked through a number of

iterative cycles. Exploration of the key competencies has resulted in both deeper and wider understandings and the process is ongoing. Next challenges suggested by the research are discussed at the conclusion of this section.

Taking a systems approach to enacting the key competencies

Iterative exploration has resulted in recognition that the key competencies can be developed throughout all aspects of school life, both inside and outside classroom programmes. Many schools have taken a multifaceted and systematic approach to exploring and promoting the key competencies across different layers of the school system. These multiple layers of practice reinforce and build on each other, and support the development of coherence across the wider school system. Systematic exploration of the whole curriculum framework in turn promotes deeper understanding of the key competencies themselves as schools re-examine them both individually and collectively, and critique their overall approaches to developing students' competencies.

Illustrating the iterative processes at work, the manner of planning for and enacting key competencies within a learning area tends to be mediated by existing approaches to their implementation within the wider school system. At the same time the process of reviewing a learning area and making changes to accommodate competency development can result in critique of previously developed school-wide approaches to the key competencies (for example, where schools recognise the limitations of more generic descriptors they might have initially developed). Where encouraged and sustained over time, such iterative cycles of professional learning have been very powerful.

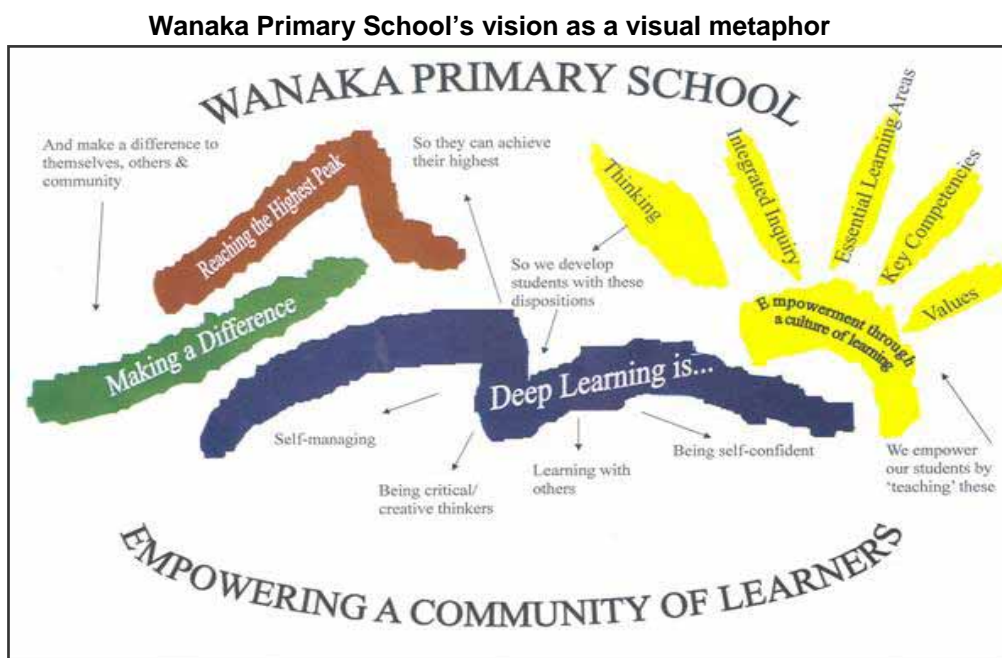
Some school leaders and teachers commented that the depth of these explorations has benefited from the evolution of collaborative ways of working within and across the school at a school-wide or department/syndicate level. Many schools have formed teams of teachers who have a passion or interest in a learning area, and they work together to evolve practice in this area. Some schools have ensured that teachers are in more than one such team so that ideas and practice from one learning area can cross-fertilise other areas. Common approaches to key competencies implementation within the various layers are outlined next.

Key competencies at the school-wide level

Exploring how the key competencies could contribute to the overall character and direction of the school has been a common starting point for early adopter schools (Cowie et al., 2009). This typically entails ensuring that the key competencies are visible within the school vision and charter, and at the level of school-wide practice. Examples of enactment of the key competencies at this school-wide level include:

- The development of a vision that foregrounds *learning* and integrates key competencies with other aspects of school practice such as school values and commonly employed pedagogies. Visual metaphors are often developed as a means of communicating this vision and they serve to support the development within the school community of a shared language for learning. The visual metaphor developed by Wanaka Primary School is an example of this type (see Figure 2).

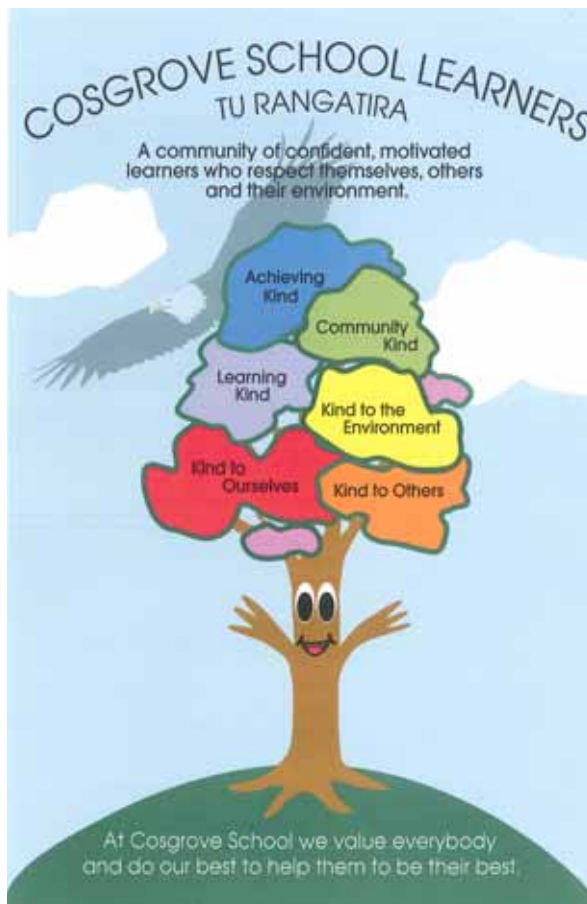
Figure 2 **One school's vision as a visual metaphor**



- The development of a school vision that foregrounds *learners*, incorporating key competencies and sometimes school values. Such vision statements tend to outline the main *learner attributes* the school wishes to foster, often associated with the development of a lifelong learning framework. Examples include: a vision for being a “lifelong learner” (Cromwell Primary); the view of learning encapsulated in the Taihape Area School vision of “TAS: Leading me to lead my learning”; and the description of learner “kinds” (Cosgrove School— see Figure 3).

Figure 3 A visual metaphor with a focus on learners

Cosgrove School’s vision metaphor including “learner kinds”



- School-wide promotion of a focus on one specific key competency for a year or a term (often alongside school values). Focus key competencies are typically promoted at assemblies, where individual displays of this key competency and related values are acknowledged and rewarded.
- A focus on fostering key competencies via student leadership roles in school management and co-curricula activities. Possible roles for students in both primary and secondary schools include: school councillors and committees; peer mentors; leadership in EnviroSchool or similar programmes; community service; and Physical Activity Leaders. (As already noted in Section 3 this is also seen as a way to introduce an element of “student voice” into school decision making and practices.) Offering students opportunities to participate and contribute in this way is seen to require more sophisticated or new approaches to relating to others, self-management and critical thinking. Some primary schools are systematically documenting students’ leadership roles to ensure all senior students have these opportunities and some are developing new ways of mentoring junior students into these roles.

- The alignment of school-wide approaches to behaviour management and discipline with school approaches to the key competencies. A number of schools have come to the realisation that discipline-focused behaviour management approaches, where *teachers* decide consequences, do not encourage students to build the key competencies. These schools are moving towards approaches that encourage students and staff to work together to problem solve and find solutions, thus better enabling students to demonstrate the key competencies. One example is the democratic conferencing approach used at Taihape Area School as an alternative to detentions and suspensions. Another is the restorative justice approaches and conversations for students and staff adopted by Wanaka, Cromwell and Alexandra Primary Schools.

These school-wide initiatives were strongly supported by the students we talked to at the case study schools. Students could see themselves within their school visions (whether for learning or learners) and could clearly articulate what these visions meant for their learning. Students also valued the increasing range of ways they were able to participate in school life and engage in learning outside the setting of the classroom. Thus a focus on embedding the key competencies at a school-wide level was contributing to engaging the student community in learning and assisting them to develop capabilities they could further strengthen within the classroom programme.

Key competencies within the primary school learning programme

Once a school has developed a vision for learning/learners, and has engaged with the overall nature of key competencies, attention typically turns to the need to exemplify the desired attributes within curriculum planning and the learning areas. This has resulted in a shift from exploring learning area content for its own sake, to a consideration of the potential of the learning areas to support learning-to-learn, and in some cases to align key competencies with key messages in the Essence Statements, although this was less common:

- Many primary schools have focused on student inquiry and curriculum integration as rich contexts for the development of the key competencies, often building on previous ICT professional development. These schools tend to make strong and explicit links between the key competencies and inquiry learning in ways that bring together learning areas such as Science, Social Studies and Health.
- The use of year- or term-long big-picture inquiry themes related to concepts such as sustainability or diversity is common. Many schools have developed more fluid and open-ended planning templates so that individual teachers have the flexibility to explore these big-picture themes in contexts relating to their year level and student group, and to incorporate the key competencies (and in some schools, the values) in developmentally appropriate ways. Teachers are clear that focusing on the key competencies or school values within learning areas needs to be meaningful, and not a “tick box” exercise (as many viewed the prior approaches to the essential skills).
- Schools have started to see longer term planning implications as they anticipate changes in the competencies of whole cohorts. A number of teachers noted that plans or schemes of work need to be “dynamic, moving, living documents” as students build competencies from term to term or year to year. Retrospective planning has become more common in primary schools.
- The opening up of planning processes has facilitated greater student input. Some primary schools (for example, Cromwell, Wanaka) have developed student curriculum leader groups who consult other students; for example, using a *Survey Monkey* survey developed with teacher support. Consultation might focus on students’ understanding of school directions (a school-wide issue) or possible enhancements to the learning programme (learning area-specific).
- Many schools are considering ways to give students’ choices in learning contexts, and to support students to reflect on their learning and progress (for example, during “meta-cognitive time” at Cromwell Primary and through the use of journals and e-portfolios).

Key competencies within the secondary school learning programme

Secondary schools' conversations have also moved from a general focus on competencies to consideration of how the different competencies might be enacted in the particular learning areas, how each area might build students' capabilities over time. This shift in conversations in secondary schools often leads to a focus on whether some aspects of competencies "fit" more naturally or readily with some learning areas than with others. For example, PE teachers described unique opportunities for *participating and contributing* and *relating to others* during physical activity, whereas in the context of exploration of a novel in English, *relating to others* could be seen to be about characters and how they communicate and impact on the story. Continuing these subject-specific conversations, while also maintaining a shared overall approach to the key competencies, is an ongoing challenge for secondary schools.

Specific examples of enactment of the key competencies within secondary school curriculum planning and the learning areas included:

- An integrated Year 9 English and Social Science unit at Taihape Area School explored the concept of partnership through a focus on the Treaty of Waitangi and the subsequent development of a negotiated "class treaty" that spelt out shared commitments to learning. This exploration occurred within the framework of the school's own mokai patea curriculum which was developed by the school in close consultation with the local iwi and which communicates the school's values and approach to key competencies.
- At Hamilton Girls' High School the focus for teacher critical inquiry over 2008–10 was embedding the key competencies within learning areas. Two assistant principals, with responsibility for leading learning in the arts and PE, supported teachers to explore how to build the key competencies within and between subjects. Teachers planned cross-curricula units as well as exploring ways to embed the key competencies within individual learning areas.

Assessment practices and key competency development

The iterative focus on the key competencies typically results in the realisation that assessment and reporting practices need to change. Not all evidence of achievement can be captured traditionally. There is increasing recognition that levels and combinations of competency development can vary widely amongst students in the same class, as well as in relation to the learning context. This recognition derives from: closer attention to student views; thinking about effective pedagogy as needing to build on from current achievement; and teaching-as-inquiry as a driver of student–teacher co-construction of learning:

- Many schools initially focused on *summative* approaches to documenting students' demonstrated key competencies. Typically, schools might begin by developing progressions that outline characteristics of a key competency from "novice" to "expert" and then reporting against these rubrics. Where schools have maintained the type of iterative exploration outlined above, they have shifted away from these initial developments and instead focus on *formative* approaches to ongoing and multifaceted competency development. Teachers noted that their earlier experiences were not wasted, even though they ultimately abandoned these, because they had assisted them to deepen their understanding of the key competencies and thus were an essential part of the process.
- Prior to the arrival of *The New Zealand Curriculum*, many CIES schools had been developing innovative approaches to formative assessment, including student goal setting. It was a natural progression for these schools to incorporate the key competencies, and specifically *managing self*, with goal-setting practices. At both primary and secondary levels students may now be encouraged to set personal competency goals alongside literacy, numeracy, other learning area and (in secondary schools) career goals. In some schools a broadening the range of goals students set—to include ways of learning—has been one way of addressing the *learning to learn* principle of *The New Zealand Curriculum*.

- At some of these schools, parents and whānau are involved in three-way goal-setting conferences with their child and teachers—a process that also supports schools to make connections with home. ICTs also offer students different types of opportunities to demonstrate learning in relation to the key competencies. Photos and DVD records are increasingly being used to document learning in ways that can be readily shared with parents and whānau. Parents and whānau are also increasingly being asked to contribute information about the skills and competencies their child demonstrates at home or in out-of-school contexts.
- At some secondary schools, deans or form teachers maintain an overview of the student goal-setting processes in relation to key competencies, perhaps initially gathering the necessary insights during form time. Co-ordinated approaches allow schools to look more holistically at students' learning and competency development across a range of academic and co-curricula activities. For some secondary schools this also meant paying closer attention to students' career goals and pathways within and outside school.
- As well as goal setting, schools are increasingly experimenting with ways to support student reflection, focusing on self- or peer-assessment, and fostering rich dialogue with students about next steps.

The following vignette provides one example of how a focus on the key competencies is building on, as well as enhancing, one school's approach to formative assessment and reporting. This vignette also illustrates one of the ways this school is enacting *The New Zealand Curriculum learning to learn* principle.

Developing students' learning power: A mediated conversations vignette

A teacher from a low-decile multicultural school described how her school is focusing on the key competencies through the lens of developing students' "learning power". Drawing on the work of Guy Claxton, the school developed a framework that outlined the sorts of learning dispositions that comprise each key competency. Teachers then mapped all the students in their class against this framework. They found that the students who displayed a wider range of learning dispositions also had higher levels of achievement in traditional assessments. Teachers used the map to look carefully at all students' needs, particularly those whose names did not frequently appear. They debated questions such as: "How can students who are not on the map be supported to develop the attributes and dispositions of learners?" "Is there a group that needs extension?" Students completed a survey about what they were good at and what they could work on, and a related peer assessment. In combination, this information was used to support students to set one or two "learning power" goals alongside their goals for the learning areas. For example, in PE students set goals for "relating to others during teamwork". When assessing progress against these goals, students and teachers co-construct the criteria to be used. Each student is then supported with their next steps. Students' achievements are written up in learning stories (an assessment method common in the school). Teachers see this to be a big improvement on past tick box approaches as they are now giving ownership to students, enabling them to consider how they might further develop their key competencies and tell their own story about their learning progress. In keeping with the school's focus on using data to suggest next steps, there is a plan for the initial mapping of the key competencies to be compared to a later mapping. It is anticipated that this will support the ongoing development of the processes the school is using.

Key competencies for teachers

The focus on lifelong learning competencies applies to teachers as well as students and most of the CIES schools now plan for professional learning that provides opportunities for teachers to develop key competencies. This focus aligns with the realisation that the competencies apply across the life course and that teachers need to be ongoing learners to sustain curriculum implementation and support ongoing change. Schools have established more distributed management structures that offer a wider range of leadership roles for teachers. They seek to actively strengthen teacher learning communities by making more use of teacher-as-inquirer, action learning and reflection approaches. They are developing processes that ensure staff work with a range of teams across as well as within traditional year groupings or subject divisions. Active engagement in these communities requires teachers to build and demonstrate their own key competencies.

Where to next?

Despite their considerable progress, exploration of the key competencies is likely to continue to be an iterative, ongoing process of professional learning for all the CIES schools. Some early understandings and approaches to the key competencies have since been adapted or even discarded, particularly in relation to assessment and reporting. School leaders and teachers are mainly philosophical about these changes: they are seen as a key aspect of learning about complex ideas with many implications for practice. As a systems view of the key competencies continues to evolve, schools are considering interrelationships between the enactment of the key competencies in the learning areas, in co-curricula and school-wide practices, and with respect to learning opportunities within the wider community. A focus on the key competencies has supported the development of a more coherent curriculum framework as schools work to align these different aspects of their work and responsibilities.

The appeal of key competencies *as an idea* doubtless resides—at least in part—in their evident ability to support *The New Zealand Curriculum* vision of students who are and continue to become “confident, connected, actively involved, lifelong learners”. Foregrounding the key competencies alongside academic learning gives schools a strong mandate to focus on the learning of the “whole child”: their social, emotional, cognitive *and* metacognitive development. The CIES schools have welcomed this mandate and used it to raise awareness of the value of an explicit focus on learning per se, including its more affective dimensions. This does raise the issue of what might count as evidence of student achievement in relation to the key competencies, and assessment and reporting processes are an active area of ongoing debate.

A related issue concerns another aspect of key competencies with self-evident appeal for schools. The key competency *managing self* is often used *as if it is seen as* a behaviour management tool. At both primary and secondary schools this commonly involves students being encouraged to “self-manage” their time, homework or tools such as books and pencils (sometimes, paradoxically, with negative consequences when they fail to comply). This type of interpretation and enactment relates superficially to, but can also detract from, exploration of the deeper metacognitive and self-reflective dimensions of this specific competency, especially the autonomy-related dimensions described in the original Organisation for Economic Development (OECD) versions (Rychen, 2003). This type of behavioural interpretation can lead schools to overlook the potential to focus on how specific *knowledge insights* might assist students in developing greater autonomy,³ with the consequence that only superficial connections are made to the content of the different learning areas.

³ For example, the OECD developers highlight the need for students to learn how to act within the “big picture” of an issue or context if their growing levels of autonomy are to be fostered (Rychen, 2003, p. 92).

As outlined above, key competencies are widely perceived to offer rich new dimensions to inquiry/integrated learning approaches, and this is doubtless another dimension of their ready appeal and widespread uptake. Teachers can see the potential via inquiry/integrated learning approaches to offer increasingly authentic and future-focused learning contexts that allow for greater engagement in co-constructed learning. However, the meaning conferred on “authenticity” varies between schools and overall it seems that inquiry/integrated learning has yet to fulfil its promise of supporting students to strengthen their key competencies and their lifelong learning capabilities. Some schools have made substantial efforts to involve students, parents and whānau, and in some cases local community groups, businesses or iwi in shaping a dynamic learning programme. At other schools the selection of learning contexts remains mostly teacher-led, causing us to query for whom they are actually authentic. At these schools, inquiry/integrated approaches typically reframe traditional topic studies and do not necessarily support students to engage in problem solving about “big-picture” issues and concerns. Again, it is the substantive content of the learning area that may be overlooked when key competencies are “integrated”. Many schools appear to be more comfortable involving students in decision making at the school-wide or co-curricula level than in the classroom programme. It is likely that further development of integrated/inquiry pedagogies will require a focus on ways to deploy teacher knowledge and expertise so that students are able to make more substantive decisions when exploring real-life and future-focused issues which have meaning to themselves as well as their community.

Integrated/inquiry units tend to variously involve social science/science/health-related topics, especially in primary schools. As we reported in CIES 1, teachers see this as a positive way to streamline and manage “content” from these learning areas (Cowie et al., 2009). Links that integrate key competencies into literacy or numeracy programmes are not yet as common, although some teachers in both case study and workshop schools did express a desire to make these connections. There are a number of possible reasons for this. One is that some developers of inquiry/integrated models recommend that essential literacy and numeracy skill-building activities are kept separate from inquiry, which is the pedagogical approach most often used for integration. Another possibility is that the focus in these two learning areas has already moved to the implementation of the National Standards (see Section 9). A further possibility, suggested by other research, is that teachers do not yet see how a focus on the key competencies could or should alter their established literacy and numeracy teaching approaches (Twist & McDowell, 2010).

Yet another possible influence is that professional learning programmes in literacy and numeracy, and related initiatives such as AtoL tend to take a deep focus in the traditional content of the specific learning area being explored and teachers cannot focus on too many different dimensions of practice simultaneously. We could thus conclude that rich opportunities for embedding the key competencies within core subjects such as literacy and numeracy are not yet as advanced as those offered for other learning areas. However, critical analysis suggests a more qualified response. We have already noted that key competencies tend to be linked to *acts of learning* per se, via aspects such as self-management, metacognition and inquiry skills. These are still essentially generic outcomes, albeit developed somewhat differently in different contexts.

What schools are less likely to do is to focus on how knowledge and skills from the learning areas could be conscripted as aspects of *competencies in use*. *The New Zealand Curriculum* defines key competencies as encompassing knowledge, skills, attitudes and values. The question at issue here is how these come together, with implications for changing the way *content* is taught. Similarly, *The New Zealand Curriculum* idea that competencies are demonstrated in use implies a need to revisit the intended *purposes* for the learning. These are learning area-specific issues, and lead to the conclusion that specific learning area outcomes could be fundamentally changed by the intersection of key competencies and content. This would appear to be a challenging “next step” for almost all the early adopter schools, and to apply in every learning area. Rich examples and associated professional learning could help schools to explore this potentially profound change in focus for learning area content. We return to this issue in Section 10 that discusses the near-invisibility of many curriculum resources.

Challenges of interpretation are not confined to New Zealand and indeed in some respects it seems that we may be “ahead of the game”. Many other countries, in both Europe and Asia, have adopted or are exploring how to adopt the OECD’s DeSeCo initiative as originally described in Rychen and Salganik (2003). It does seem that in New Zealand, more than other countries, we have approached the key competencies through a powerful holistic approach, underpinned by a sociocultural lens on the nature of learning. In some other nations the key competencies appear to now serve as the new “essential skills” and their promise may not be fulfilled. Given the real progress that early adopter schools have already made via their iterative cycles of exploration of key competencies it does seem that we can, as a nation, continue to lead the way. But it is important that the existing momentum is maintained if we are to attain the full potential of the key competencies to play their part in transforming the education system to achieve *The New Zealand Curriculum* vision for “confident, connected, actively involved lifelong learners”.

6. The principles at work in the school curriculum

How are *The New Zealand Curriculum* principles being used by schools to give effect to *The New Zealand Curriculum*, and what are the actual school and classroom practices that demonstrate this?

The eight principles outlined in *The New Zealand Curriculum* are described as the “foundations of curriculum decision making” (Ministry of Education, 2007, p. 9). This implies an *active* role for the principles, and this is reflected in the wording of the research question. After we had completed the workshop component of CIES 2 we reported that principles were often embedded in other aspects of implementation rather than being foregrounded in curriculum decision making:

Participants brought a wide range of examples of changes in practice to the workshops. However these examples seldom focused explicitly on the principles. In the conversations that followed the presentation of the examples we asked why this might be. It became clear that when school leaders or teachers are invited to talk about these decisions and changes, they tend to focus on the ‘what’ of their actions rather than the underpinning ‘why’ and hence may not think to say how the principles informed the decision unless prompted to do so. (CIES 2, June milestone report)

This tendency to foreground other aspects of *The New Zealand Curriculum*, thereby embedding principles within other aspects of the school’s curriculum decision making, was also found in the case study schools. However, the case studies provide a more nuanced picture of the principles at work in a school because they are much more comprehensive than the workshop vignettes. Accordingly, this chapter mainly focuses on findings from the case study schools. Each principle is considered individually, followed by a discussion of ways they interact—both with each other and with other aspects of the “front end” of *The New Zealand Curriculum*, all within the overall complexity of the school’s lived curriculum.

The work that principles do

Broad principles are commitments to certain *values*. They provide direction to official national curriculum statements and to the curriculum enacted in schools (Eisner, 1994; Smith & Lovat, 2003). They express national aspirations and provide for a sense of commitment to chosen ideals. These ideals, in turn, reflect political, social and economic influences. The principles thus play an important role in attuning the school’s teaching to widely shared national hopes and expectations for young people, now and in the future. One notable feature of *The New Zealand Curriculum* principles is that they “put students at the centre of teaching and learning” (Ministry of Education, 2007, p. 9) and each one of the eight demonstrates a different aspect to giving effect to this commitment.

Another important general observation is that, because they reflect existing national aspirations for schooling, the principles could be expected to be in alignment with “best practice” aspects of change already happening in schools. And indeed it appears that they are. They did not drop into a vacuum. We cannot say for sure that the principles have been the key influence on the changes reported next, but we can say that the changes are congruent with the intent of the principles. They are being enacted, whether deliberately or via their alignment with other aspects of *The New Zealand Curriculum* and other professional learning and change initiatives.

The individual principles at work

High expectations

Evidence shows that high teacher expectations of students are linked to improvements in academic and other achievement (Alton-Lee, 2003). High teacher expectations encourage students to also hold high expectations of their own performance, especially when they are supported to take greater responsibility for their own learning.

As outlined in Section 3, this principle was clearly reflected in the attention being paid to student *engagement*. In all the case study schools there was a strong ethos of empowering all students to strive for excellence in relation to their own abilities and circumstances. This ethos was fostered via explicit school-wide expectations and reinforced in staff meetings and professional development, so that every teacher was encouraged to consistently live this principle in their classroom. The focus of such conversations and professional learning could be any combination of:

- changing from a deficit model to a strengths-based culture of learning and achievement
- setting and tracking of assessment targets to keep all students on track with their planned learning pathways
- adopting an assessment for learning focus that aimed at involving all students in conversations about their learning achievements and next steps
- a policy of “honest”, “explicit” or “transparent” reporting of achievement with a view to supporting all students to build on their current learning in a manner appropriate to their learning needs.

As outlined in Section 6, high expectations were often communicated to the whole school community via each school’s vision for learners. Visual metaphors and aspirational mottos emphasised the aim of all students experiencing success in their learning, to the level of their best efforts and within their capabilities. Other public events and demonstrations served to reinforce this positive strengths-based message:

- Celebration of a wide range of achievements was often a feature of pupil assemblies, sometimes with parents in attendance.
- Display boards in classrooms and in shared school spaces again celebrated a wide range of achievements. This congratulatory aspect was made explicit at Taihape Area School. Display boards outside junior classrooms, where anyone passing by could look at them, were called “homai te paki paki” (give me a clap) boards.

Observation of the manner in which student work was displayed in classrooms also provided evidence of a desire to reinforce expectations of quality learning outcomes. Teachers and students were able to discuss displayed work in terms of the underpinning learning intentions and the evidence presented in relation to achievement of these. Students as well as teachers could appraise the work displayed. While explaining to one researcher how the displayed work had been carried out, one primary student said, “Teachers expect us to do the best we can all the time.” Achieving such an ethos was the aim of every case study school.

School leaders were very conscious of the demands they were placing on their teachers as learners. As outlined next in Section 7, various forms of teaching as inquiry served to keep high expectations of teachers’ professional practice in clear view. An emphasis on learning together and supporting each other to enact the Effective Pedagogy section of *The New Zealand Curriculum* reinforced the message that high expectations are as much about teacher learning and *working together* to achieve as they are about individual effort and this applies to everyone in the school.

Community engagement

The *community engagement* principle points in two directions: first is the student community and second is the wider community.

The principle begins by noting that the “curriculum has meaning for students, connects with their wider lives ...” (Ministry of Education, 2007, p. 9). The way schools have worked to ensure that they offer a curriculum that meets the intent of this aspect of the *community engagement* principle is discussed in Sections 3 (student engagement) and 5 (key competencies).

The second part of the principle refers to engaging the support of students’ “families, whānau, and communities”. The benefits of school–community engagement have long been recognised in New Zealand (Department of Education, 1989). All the case study schools already had positive links to their community before the arrival of *The New Zealand Curriculum*. However, as outlined in Section 4, this principle has served to endorse and give new impetus to existing outreach initiatives, and to open a space for new conversations about what might be achieved via greater engagement of the community with the school’s curriculum making. The *community engagement* principle intersects with *high expectations* when parents are enlisted as active supporters of student learning, and conversations between them and the school involve interchange of information and ideas in both directions, with the aim of finding the best means of supporting each child’s achievement.

There has always been a variety of types of interaction between schools and their communities—via events, parent help of various forms and so on, typically more so in primary than in secondary schools. *The New Zealand Curriculum* could have helped to stimulate greater levels of such interactions, and its key messages are linked to some interesting trends in two-way engagement between schools and communities. For example, we found a new focus on *community service* in a number of schools. Here learning takes place via opportunities to act in the community and is often linked to key competency development and in some cases to inquiry learning (see Section 5).

Learning to learn

The *learning to learn* principle states that all students are expected to “reflect on their own learning processes and to learn how to learn” (Ministry of Education, 2007, p. 9). Enacting this principle is challenging, not least because students have to be motivated to *want* to initiate and manage their own learning (Good & Brophy, 2008). However, as earlier sections have reported, all the early adopter schools are working on achieving higher levels of student engagement, and learning-to-learn conversations and strategies have been integral to these efforts. Many schools have increased their focus on formative assessment and practices such as supporting students to set goals for learning and then commit to, and reflect on, these is now common practice, as is the provision of feedback to support ongoing learning. The types of goals students set have broadened from a mostly academic focus to also encompass learning-to-learn goals. Self- and peer-assessment is now more evident in classrooms. Again, *The New Zealand Curriculum* has contributed impetus, notably via explorations of the key competencies (Section 5) building on existing professional learning initiatives such as AtoL and literacy or numeracy programmes, with their emphasis on pedagogies that make learning a more visible focus of classroom conversations. These powerful synergies have doubtless contributed to the focused attention given to learning to learn. Of all the eight principles, this is the one that has most actively and explicitly contributed to curriculum decision making in the case study schools.

School-wide professional inquiry into *learning* per se was a focus of professional learning programmes in a number of the case study schools. School leaders engaged teachers in investigating how best to support student learning, exploring questions such as “What is good learning?” Another common inquiry focus concerned how best to add learning-to-learn aspects to classroom programmes (see Section 5). It was clear that many teachers had gained new insights into student learning from professional reading, seminars and teacher group discussions in their focus area (see Section 7). Collegial

inquiries were typically carried through to teachers' own classes. As well as self-review of their own teaching, many teachers were increasingly encouraging their students to self-review. Students we spoke to were aware of this shift in focus, as evidenced by the following comments:

We work in pairs to go over our work and tell each other how we could do the work better or differently.
(Year 6 student)

We know the teachers want us to do our best and to look at any work we have done to see if we can improve it and what the next part of our learning is going to be. (Primary school student)

Our school really pushes us to learn independently. I have heaps of studies to do. Our timetable is like it would be at university, preparing us for transition to university. I have learnt how to organise my learning. (Year 13 student)

Treaty of Waitangi

This principle has a dual focus on acknowledging the bicultural foundations of Aotearoa New Zealand and affording all students the opportunity to acquire knowledge of te reo Māori and tikanga. While obviously related, each focus points to somewhat different challenges and actions.

Most case study schools, and many of the schools from which participants came to the workshops, had demonstrably responded to this principle at a symbolic level, strengthening their charter statements regarding the Treaty. As already outlined in Section 3, they had followed through on the commitments made by reaching out to engage iwi and whānau in conversations about their children's learning, and in some cases by enlisting their support in reframing the school curriculum. In several notable cases, principals had led the teachers out into community settings, deliberately positioning the school staff as being outside their comfort zone as they interacted with Māori families. The vignette in the box below describes one such example.

Knowing who we are and where we come from: A workshop vignette

In this mid-decile secondary school positive relationships and pastoral care are seen as a key underpinning of learning. The school has a high Māori roll, and although data show Māori students are achieving well, the principal considers it vital that staff know and understand where students come from and the rich history they bring with them to school. To support staff to gain more knowledge of students' culture and history, and make more links to this within the curriculum, the leadership team designed a "Journey to [the school]". This one-day start-of-year bus trip centred around the local social and cultural history, environment and geography. Teachers visited a local marae for a discussion with kaumātua about land confiscation, went to local sites and areas where students live and visited the head boy's house for morning tea. The trip ended with a BBQ for staff, students and all whānau. Many staff noted that they had not known the local iwi history before this experience. At the time of the workshop the school had plans to expand this trip by working with another local iwi.

Māori student achievement was a focus of data-driven inquiry in a number of the schools (see Section 7). Several schools had made strategic appointments of Māori teachers to provide mentoring support such as setting and tracking achievement goals, and in secondary schools ensuring course choices were appropriate to a student's prospective

learning pathway. These teachers were role models for Māori students but also acted in an advisory capacity to other staff in matters of appropriate language use and cultural practices (tikanga).

Over the course of our visits to the CIES schools we observed that they were all working to strengthen their approaches to promoting tikanga and te reo Māori. For some schools changes were informed by community input. For example, consultation with Māori whānau and iwi at Cromwell Primary had led to the development of a school-wide te reo Māori programme and a strengthening of the focus on kapa haka. Other schools were encouraged by ERO visits to further consider how they could better support Māori learners by incorporating more tikanga and te reo into their programmes. Schools were variously increasing this focus in one or more of the following ways:

- weaving a consideration of values such as manākitanga and whānaungatanga and approaches such as ako (reciprocity) throughout school life (for example, we saw this at Taihape Area School and at Hamilton Girls' High)
- creating management or “lead learner” positions which gave Māori staff responsibility for building capacity in te reo and tikanga across the school (Alexandra Primary, Wanaka Primary, Hamilton Girls' High)
- at some schools the focus of a “lead learner” position was on creating more space for Māori cultural and linguistic contexts to be integrated into the taught curriculum (Morrinsville College and Taihape Area School)
- offering te reo Māori classes for students (Tatuanui, Alexandra, St Gerards and Cromwell Primaries); or bilingual or immersion classes (Taihape Area School)
- increasing the focus on performing arts such as kapa haka (Wanaka and Cromwell Primary and Morrinsville College).

Cultural diversity and inclusion

These principles have similar intent and hence are discussed as a pair. The former draws attention to the need for the curriculum to relate to New Zealand's cultural diversity in a way that caters for all students. The latter draws attention to the challenge of meeting all students' learning needs, regardless of their race, gender, language, abilities and so on. Practices that affirm cultural diversity and create more inclusive learning opportunities are congruent with the intent of the *high expectations*, *learning to learn* and *Treaty of Waitangi* principles and these were more likely to have been a specific focus of curriculum decision making. Neither the *cultural diversity* nor *inclusion* principle was likely to be a strategic focus of professional inquiry in the manner reported above for *high expectations* and *learning to learn*. Rather, enacting other aspects of *The New Zealand Curriculum* has been congruent with the intent of these principles, so that existing practices might have been strengthened but new directions and initiatives in specific response to these principles were less common.

At the symbolic level, values such as “embracing difference” or “cultural inclusion” were commonly mentioned in schools' policy documents. Similarly, schools tend to have a statement about inclusion in their charter. However, it was difficult to tell whether inclusion policies and practices in these schools were influenced by *The New Zealand Curriculum* because such policies and practices were already in place before the curriculum was released. However, as they explored *The New Zealand Curriculum* many schools revised their values and their approach to values. A focus on inclusion was visible through values posters, developed as part of *The New Zealand Curriculum* implementation and on display throughout school spaces, including in classrooms. This work also linked to schools' explorations of the key competencies as students and staff considered what it meant for all to be able to participate and contribute or relate to one another in productive ways.

Supportively accommodating cultural diversity was not a new challenge in the case study schools. However, *The New Zealand Curriculum* had stimulated a renewed focus on inclusion of students from different ethnic backgrounds in all

aspects of school life. Schools strategically celebrated ethnic differences through their selection of curriculum topics, especially in the Social Sciences, Arts and Food Technology learning areas. A strengths-based approach to engaging students in learning reinforces a school climate where all students can find a place to “belong”.

Some schools were working towards offering more coherent support for students with special needs. For example, Wanaka Primary and Taihape Area School had established SENCO⁴ management positions. The staff in these positions worked across the school to track students, and co-ordinate approaches and teacher aides. It is now common in the case study schools for every student to be tracked individually, with assessment information used to design learning experiences to match their needs. Some initiatives to accommodate groups of students with specific learning needs included:

- Differentiation of learning experiences to cater for wide ranges of abilities and needs was practised in some schools.
- Grouping of students could be used strategically to accommodate identified needs—for example, offering a “boys-only” Year 8 class in one full primary school or different types of senior literacy classes in a secondary school.
- In one primary school students learnt sign language so they could interact with special needs students who communicated this way.
- One school was a registered 4D dyslexic-friendly school and provided a range of supports including a learning support class with specialised programmes and a low student-teacher ratio as well as laptops for learners who needed extra support.

Coherence

The New Zealand Curriculum definition of this principle suggests several types of coherence or links in curriculum: the need for a broad education that links learning areas; coherence between the years of schooling; and links to further learning pathways beyond school. As a comprehensive discussion by Tanner and Tanner (1980) showed many years ago, these types of curriculum coherence are challenging for schools to achieve. Over the course of the CIES research we noted increasing recognition of the potential advantages of several forms of coherence:

- Some schools were working to make better links between learning areas. As we reported in CIES 1, primary schools typically seek to achieve such coherence via inquiry learning topics that span several learning areas (Cowie et al., 2009). Some junior secondary courses created topic-based combinations such as English/social studies exploration of a history topic; technology/history to study food technology through the ages; and a visual arts/English/social studies unit to learn about World War 1. One secondary school was trialling a revised Years 9 and 10 programme for four integrated social studies and English classes of mixed ability.
- Teachers were engaging in professional inquiry to understand the learning progressions of students across the years in order to better connect prior learning to current learning and to anticipate further learning in future years. This type of conversation was more common in primary schools and sometimes related to the “big-picture” messages of *The New Zealand Curriculum* (for example, “what success looks like at different levels”) not just to learning area progressions. However, a number of schools did see tracking of student progress and targeting programmes to meet identified needs as part of the *coherence* principle.
- Via their professional learning networks, school leaders were strategically developing connections between the various sectors of schooling to enable better informed transitions for students.

⁴ Special Education Needs Co-ordinator

These examples highlight the *professional learning* dimensions inherent in curriculum decision making that focuses on the principle of *coherence*. Professional inquiry might relate to what is most worth learning, developed as whole-school curriculum themes, or to what constitutes “transferability and deep learning” (which is discussed in more detail in Section 8: Rethinking relationships between breadth and depth). Key competencies are likely to be a catalyst for and focus of coherence conversations because they “link learning areas, learning activities and life across the school”.

One important form of coherence *not* included in *The New Zealand Curriculum* definition is a systems alignment of coherent approaches to curriculum, assessment and pedagogy. Working to achieve this form of coherence was a high priority for many school leaders as they supported their school through ongoing self-review processes. Their aim was to align practice within and between many different aspects of school practice, in a way that was aligned with the directions of *The New Zealand Curriculum*.

Future focus

The *future focus* principle aspires to have students look to the future through the study of topics such as sustainability, citizenship, enterprise and globalisation that have implications for their lives beyond school. Of all the principles, this is arguably the one that has received least attention to date, which is perhaps not surprising given the inherent uncertainties in what it might encompass (see, for example, Bolstad & Roberts, 2009).

The New Zealand Curriculum vision for students that they become “literate, numerate, critical and creative thinkers, and active seekers, users and creators of knowledge and informed decision makers” as lifelong learners is connected to a future focus but in relation to the skills, attitudes and dispositions students need rather than the particular issues they might need to know about. The key competencies as the “capabilities for living and lifelong learning” also contribute to this meaning of future focus, pointing to future *uses* of all learning, not just future-focused *topics*.

The discussion of breadth and depth in Section 8 also has implications for this principle. A focus on the nature of knowledge, that is, how it is generated, legitimated, structured and used in the different learning areas and how the different areas might be generatively brought together, has the potential to provide students with the knowledge and skills to creatively engage with future-focused issues. However, our research suggests that building teacher expertise in this nature of knowledge dimension is itself a future-focused issue in that it is likely to require a different type of professional learning than commonly offered programmes to date.

The issue of future-focused *school change* is also a contested space. Thomson (2010) has reviewed international literature on future-oriented school change and points out that it is a complex issue that requires more analysis from both curriculum policy and learning and teaching perspectives. This paper further argues that schools generally lag behind international developments in economics, ICT and social changes such as increased societal and geographical fragmentation. How can schools deal with such changes? Do schools follow change or do they have a role in guiding students to think about and develop skills to lead change? *The New Zealand Curriculum* principle does not provide guidance on these questions other than to alert teachers to topics that are currently cutting-edge developments or challenges.

This principle then would seem to be problematic in its conception through the potential limitation of listing topics rather than introducing a focus on futures thinking where this involves “the rigorous art of imagining” that helps people to “think constructively about the future” (Bell, 1996, as cited in Codd et al., 2002, p. 5).

How schools were addressing this principle

All primary schools emphasised future sustainability as an important part of the curriculum. For example, one rural primary school was part of a wider EnviroSchools project that combined multiple environmental goals across the school.

The learning activities in the project were relevant for the current lives of the students (recycling, planting and tending trees, etc.) and were developing attitudes and practices that would impact upon their future lives. These primary children were able to articulate the importance of these goals and practices to their lives and could connect their learning to their families and their home lives:

Some of the work we do is relevant for us now and some it might be relevant when we grow up but we do not know that yet. But the work is still useful for us to do now. (Year 6 student)

In primary schools, one common approach was to use the future-focused issues to assist in selecting a big-picture theme for a year, around which the learning programme and other school activities were structured. Schools linked citizenship to the key competencies in a way that aimed to develop an awareness of issues facing the world, and supported students to become active participants in community–school activities such as recycling, conservation and helping others in need in the community and nation. One secondary school had embarked upon a policy of adapting the curriculum to make topics and learning experiences more relevant for about two-thirds of the students who would eventually work in various agriculture-related occupations.

We noted that schools, especially those in the primary sector, often made explicit connections to the future-focused issues of sustainability and citizenship. We heard less explicit mention of enterprise—although at some schools this was linked in with technology-related learning experiences. We did not hear explicit discussion about globalisation, but a consideration of this issue was woven within school-wide sustainability themes such as “What does it mean to have a happy healthy world?” or themes that explored population diversity. A number of schools were conscious of the need to consider the issues and challenges facing their local communities at a time when these communities were increasingly diverse, which could be seen as addressing an important consequence of globalisation.

Thinking about the principles as a system

Another challenge for working with the principles is that they can be read in isolation or as an interconnected set, as highlighted in March 2010 *Gazette* supplement. Some examples of the synergies highlighted there are:

- Learning how to learn/Inclusion—all types of learning are celebrated, not just elite success.
- Community engagement/Treaty of Waitangi—staff work to clarify purposes for consultation with iwi and how this might create a space for effective partnerships.
- Learning how to learn/High expectations—learning relationships are supported and modelled across the school community (within and between leaders, teachers, board of trustees, parents, students)
- Cultural diversity/Future focus—the diversity that exists in the school community is used to expand all students’ learning horizons.
- Inclusion/High expectations/Future focus—the structures of the school provide opportunities for all students to optimise their learning potential.

As these synergies illustrate, the principles are about the way a school culture as a whole creates a space for all students to learn and supports students to see themselves as learners. They underpin formal curriculum policy, planning and prioritising and all the operational processes that bring the curriculum to life within a school.

Does it matter if principles are in the background?

When they first started exploring *The New Zealand Curriculum* many school leaders supported staff to unpack the principles and look for alignment and mismatches between these and school approaches. These initial considerations underpinned the early interpretation of *The New Zealand Curriculum* and the actions subsequently taken to this.

However, the focus of professional learning soon moved on to more evidently new features of *The New Zealand Curriculum* such as learning to learn and key competencies, which became the main focus of ongoing change, with the principles moving into the background.

It will be evident from the examples that recursive exploration of the key competencies (see Section 5) often implicated one or more of the principles, and in particular *learning to learn* and *high expectations*. However, it was difficult to assess the extent to which any links between the two had been systematically planned. Students were increasingly aware of expectations on them through the school-wide vision of what a learner/person from their school should/could be like and through a teaching focus on key competencies, rather than via any deliberate attention to principles. The emphasis on key competencies appears to have taken precedence over any exploration of principles as a coherent set. Given their obvious resonances this does not seem to matter if the ends intended by the principles are achieved via other starting points.

A similar comment can be made about principles and the Effective Pedagogy section in *The New Zealand Curriculum* because, again, there is cohesion and consistency between the two and in the case study schools effective pedagogy has been a common focus of professional learning and teaching as inquiry (see Section 7).

One implication of this coherence is that an exploration of the principles offers a valid entry point to the curriculum, one that is of equal merit/potential value to that of a focus on the vision, key competencies and/or the learning areas. This diversity of entry points is likely to be of value for later adopter schools who might prefer to begin with a discussion on the way teachers decide what and how to include particular topics, ideas and activities in the curriculum.

A number of early adopter schools have returned to the principles to use them as a point of reflection and review for their ongoing curriculum developments. When this happens, the principles are seen to be contributing to increasing school-wide coherence. By 2010, a number of school leaders considered practice at their schools to now be an *embodiment* of the principles, and doubtless they will continue to be a reference point for reflection in these schools.

7. How are we doing? Teaching as inquiry

How is the teaching as inquiry process helping teachers practise evidence-based teaching, particularly in secondary schools?

In a departure from previous national curriculum documents, *The New Zealand Curriculum* includes a detailed statement on “effective pedagogy”, which describes seven effectiveness factors that can have a positive impact on learning. Teaching as inquiry is one of the seven and it recommends that teachers should inquire into the *impact* of their teaching on students. To do this, teachers need to: establish a baseline of information about student learning; plan learning experiences that focus on what students need to learn; and investigate what they do learn, with assessment evidence used to plan the next steps in learning. In this cyclical way teachers continuously monitor the impact of their teaching on *student learning* and choose further studies.

The New Zealand Curriculum statement also suggests that teachers should inquire into their own *teaching methods*. That is, they should use “evidence from research and that of their own past practice and that of colleagues to plan teaching and learning opportunities (Ministry of Education, 2007, p. 35). The intent is for teachers to inquire into their own pedagogy to assess its effectiveness and take steps to systematically learn new or altered practices where needed. Thus, there are two interrelated but distinct potential focuses: inquiring into students’ work and inquiring into one’s own teaching with a view to improving it. The foregrounded focus is likely to determine the type of inquiry that unfolds, and the actions that subsequently follow.

The Effective Pedagogy pages of *The New Zealand Curriculum* prompted a fresh look at teaching methods in the early adopter schools, both primary and secondary. It was clear to the leaders of these schools that a “transmission of information” model of teaching will no longer suffice. Congruent with their expectations for students, these school leaders also shared a strong view that teachers should be regarded as ongoing learners in the area of improving their teaching. Summing up a noticeable “disposition” common to the early adopter schools, one teacher said:

I consider the school culture promotes teachers as learners and the school culture lets you feel you are contributing, not threatened. (CIES teacher in a case study school)

How schools understand and enact teaching as inquiry

Whereas *The New Zealand Curriculum* model for teacher inquiry (Ministry of Education, 2007, p. 35) presents questions in the first person (for example, Is there something I need to change?) and therefore suggests *individual* inquiry, most schools were using some version of *The New Zealand Curriculum* model as a tool to deprivatise practice via *collective* inquiry. Thus, schools leaders and teachers in the early adopter schools tended to emphasise the “learning together” aspects of the approaches outlined next with the intent of collectively building practice at different levels of the school system.

We observed a number of different teacher-as-inquirer models in use in the CIES case study schools, and each school could be using one or more of these approaches in combination:

- an accountability approach where the focus was on “improving the numbers” in relation to specific aspects of student achievement
- a structured group reflection approach where the focus was on exploring professional readings;

- an action research/Ariki-style approach with a focus on a particular aspect of practice, question or issue which leaders or teachers were exploring individually but with team input
- a lesson study approach.

All four broad approaches are based on the kinds of ideas included in pages 34 and 35 of *The New Zealand Curriculum*, but the foregrounded purpose, action sequence and contexts of each approach differ. Most CIES schools had adopted or adapted their particular teacher-as-inquirer model from a prior professional learning contract such as AtoL, Literacy Learning, ICT professional development or Te Kauhua. Thus, the focus of these earlier contracts shaped the model of professional learning used to enact teaching as inquiry.

These different approaches were also variously being used at different levels of school organisation: whole school; groups of school leaders or teachers; and at the individual level. Varied grouping of teachers and inquiry strategies was often used to strategically orchestrate conversations across year levels or subjects (especially in secondary schools) to ensure teachers worked with a range of colleagues and across a range of contexts.

An accountability approach to inquiry

An *accountability* approach is focused on “improving the numbers” in relation to a specified aspect of student achievement. This focus resonates with professional learning models that aim for improved practice in a specific area such as strengthening overall literacy levels in a school. The broad approach could also be seen as an ongoing development of existing planning and reporting processes which more closely aligns these to *The New Zealand Curriculum*.

The accountability approach typically starts with co-ordinated whole-school collection of data with the aim of identifying aspects of underperformance or particular need. The identified areas are then targeted and a plan to improve measurable performance is developed and implemented. Further data are collected over time and are used to evaluate changes in the targeted outcomes. Further rounds of investigation and action can follow. While aspects of the enactment involve change in classrooms (the data provide raw material and evidence for teachers in their review of their own teaching and planning of next learning steps for students), this is an approach that typically involves the whole school, albeit actions are likely to be contextualised. Typically, all teachers or a group of teachers work with the data to ensure that everyone has ownership over the challenge of improving student achievement.

In some secondary schools data-based changes made to students’ course selection processes may be seen as falling within the ambit of teaching as inquiry:

The dean system is one form of inquiry. Senior deans closely track student data and use this to develop needs-based approaches, for example, we reframed a senior English literacy programme into two needs-based classes. Tracking of junior student assessments is also linked. In teams, all teachers review school assessment results. The next steps are decided by this analysis, and student feedback is provided.
(Secondary teacher in CIES case study school)

Using information in this accountability-focused way is only partly a reflection of *The New Zealand Curriculum* emphasis on teaching as inquiry. It also reflects a greater use of ICTs to collect, store, represent and report assessment data. It is also evidence of a general push to evidence-based teaching of which the National Standards is the most prominent example. Leaders in some schools noted that recently developed sophisticated software packages such as KAMAR were enabling them to do this more effectively.

Structured group reflection as teacher inquiry

A *structured group reflection* approach often begins with the distribution of an article that individuals read in preparation for the collegial reflection and exploration of ideas that follows. This process is typically facilitated by a senior leader. Discussion might start with an outline of the “big picture”, followed by reflection and discussion in a smaller group (variously named a quality learning circle, quality learning team, professional learning community or community of practice). Teachers are encouraged to talk about the ideas in the reading and their own thoughts about these. The goal is to learn together in order for each participant to improve their own teaching practice. In this way, the model *may* lead to action in the classroom of the teachers involved, but not necessarily. Examples include:

- In one workshop secondary school a whole year of collegial learning sessions was initiated with an article on “student voice” (Guskey & Anderman, 2008). Feedback from the first shared conversation suggested that the teachers were already comfortable negotiating class rules with students, but not with sharing decision making about topics, group allocation and so on. The next conversation focused on why teachers trust students with power in some areas but not others. This began a rich ongoing conversation that resulted in regular “show and tell” sessions at which individual teachers volunteered to share ideas they had tried successfully.
- In one primary school the teachers were involved in a professional learning contract about student writing. In-depth explorations of pedagogy to support student writing were a part of the process, with the teachers reflecting and learning about how to continuously improve practices to support student writing development. The school’s approach to implementation of National Standards has followed the same process: much time has been spent on staff discussion about the nature of the standards, how to work with them and issues such as what kinds of evidence are required, and teacher judgement about how to work with these concepts in relation to the standards.
- In another secondary school the principal developed a literature-based overview of key effective pedagogies and developed a survey that explored teachers’ use of these. The survey data were used to set professional learning directions and for teachers to select an aspect of practice to build, as well as a related appraisal goal. In small cross-curriculum teams teachers explored one pedagogical approach (for example, rich task construction or restorative justice practices) and developed ideas about how to use it to enhance learning. Teams presented their material to other teachers during workshops.

An action research or Ariki-style approach

The *action research* or *Ariki-style* approach is characterised by a focus on a particular question or issue that teachers explore individually or in teams (Stewart, 2008). In practice there is some overlap with the structured reflection approach outlined above, but one difference is that the teacher tends to select the area of exploration, rather than senior leaders. An action research approach involves teachers determining the type of information or data that could help them address this issue and then making a plan to collect this data/information. The issue is further analysed and discussed in the light of what this initial exploration reveals and ways of working on the question or issue to address the situation are developed. The suggested solution(s) are then implemented. Following this a review of the implementation process and results may lead to another “round” of inquiry. Examples include:

- In one senior secondary school teachers are expected to demonstrate how their teaching and learning decisions are “data driven” and responsive to student needs. All staff work in action research teams and collect data on specific questions about their own teaching practice that they then discuss together. Teachers then use the insights gained to develop “split screen thinking” as a way of developing learning-to-learn conversations in their classrooms.
- Another secondary school has instigated classroom research focusing on teacher actions. Preliminary research determined that student confidence needed to be fostered. The staff decided to try: increasing recognition of student efforts; developing a sense of belonging; giving students more opportunities to participate in class and school life; and increasing the relevance of learning. Teachers initially took action by reviewing their Year 9

units and shifting the dominant focus from “content” to tasks which used the key competencies to reflect back on learning.

Comments made by teachers suggest that a school’s version of action research to address immediate issues has the potential to become “the way we do things now” in schools where it is used routinely to address questions of teaching and learning:

All staff are part of Quality Learning Teams that use an action research model to develop school practice. Most changes are reviewed using this model. Teachers also have buddies to support them to develop in areas they identify. In 2009–10 the focus was on curriculum area teams that were developing plans for curriculum progression from Years 0–13. (Teacher in CIES case study area school)

An Ariki-style approach was also being used in some schools in ways that were similar to action research, but with a strong emphasis on reflective group processes. This approach tends to initially involve *working backwards* to explore what existing data might reveal about a particular practice, whereas an action research approach *works forward* by developing a plan for data that will be collected in the future.

The Ariki approach enables “Critique Based on Evidence of Practice”.⁵ For principals, this involves individually documenting and describing to a group of colleagues the actions they took to achieve a particular school goal, and the implications for teachers and students. They use a range of different data sources and artefacts to do this. During a discussion based on Quality Learning Circle principles, their colleagues then ask a set of scripted reflective questions that aim to support the principal to reflect on their practice. The principals also keep a Web diary as a reflective tool and often visit each other’s schools in order to engage in classroom observations with the aim of validating or extending the reflective discussions.

The Ariki model of professional learning was developed for the Ariki leadership programme and has been co-opted as an internal professional inquiry process in a number of the CIES schools. Principals want their staff to experience the powerful learning that has occurred for them in their wider professional support networks. In this way school leaders aimed to provide a forum for teachers to continuously learn together, with exploration, experimentation, reflection, collaborative critique and refinement an inherent part of the process.

When used with teachers, each teacher in an Ariki team selects an aspect of practice they are building to demonstrate and discuss with their peers in order to gain critique and further ideas about how to enhance this practice. Teachers can use examples of student consultation data or work samples or assessment data as evidence of how this practice is playing out in the classroom. Classroom observations can also be used as evidence of practice.

For both teachers and principals there is the expectation that, following the group reflection, they will alter their practices, and report on evidence in relation to these changes in further cycles. Elements of the Ariki approach may be combined with other whole-school professional learning and the sharing of professional readings, so that shared understandings are developed and an aligned focus is maintained across activities.

A lesson study approach

The *lesson study* approach can be thought of as a “cut down” version of the action research model. In this approach a lead teacher, sometimes called a “star” teacher, or a similar term, will introduce a new teaching idea approach and demonstrate it in action with a class while other teachers observe. They may also observe as other teachers begin to try out the approach in their own classes. The outcomes of this “lesson in action” are discussed by the group of teachers

⁵ <http://www.arikiproject.ac.nz/about/>

involved and modifications made. In some schools micro-teaching professional learning circles are part of the overall professional development programme, in combination with one or more of the approaches discussed above.

One example of lesson study is the approach used at Wanaka Primary to develop teachers' ability to further integrate tikanga and te reo Māori into the classroom programme. An expert Māori teacher visited each class to model examples of practice for the classroom teacher. Teachers would then attempt to weave these practices into their classroom programme, with ongoing support offered by the expert teacher.

In practice, lesson study is often integrated with one or more of the other approaches to inquiry, as illustrated by the following snapshot from Morrinsville College.

Learning by example

Since the publication of *The New Zealand Curriculum* in 2007 the leadership group at Morrinsville College has given a lot of attention to improving the quality of teaching. Teachers have been supported to investigate their own teaching, with a focus on learning. The aim is to increase the level of student involvement in their own learning, including giving more choice in study topics and learning approaches and increased responsibility for their own learning. The leaders identified outstanding teachers—called star teachers—who were regarded as good examples of inquiring teachers. These star teachers set an example of teaching that is self-reflective. They demonstrate high expectations and they gain respect from students. They model alignment between topics, learning activities, assessment and the setting of new goals for learning. They provide regular feedback and encouragement to students and engage in ongoing interaction about learning. The school's prospectus for 2011 stresses the importance of teachers as reflective practitioners. A lot of emphasis has been put on assessment in Years 9 and 10, where teachers use assessment data to plan future learning experiences for students. The star teachers lead cross-curriculum groups, where teachers can watch others teach, discuss teaching and model the practices of the star teachers. In this way, the school leaders believe that teaching as inquiry will spread throughout the school. During the final round of fieldwork there was evidence that this spread was well under way. Evidence included an increase in the number of field studies teachers now included in their class programmes, which was a strong feature of star teachers' practice, and advocated by them as a way of adding relevance and interest to topics.

Is it working?

Teachers in some schools spoke about student inquiry learning approaches when asked about the teaching as inquiry process. We reported this issue in our final report on the first phase of the CIES research (Cowie et al., 2009) and our research in the second round indicated that it is still an issue for some teachers. However, over the three years of the CIES study there has been a great deal of work done on teaching as inquiry in the early adopter schools. Although the conflation of teaching as inquiry and inquiry learning is no longer prevalent, there is still a degree of confusion for some teachers. We would expect teachers to be at different places on this particular learning journey because schools are continuing to clarify the meaning and significance of both student inquiry learning and teaching as inquiry as they continue to recursively visit and review ongoing curriculum learning and change.

There is considerable evidence to suggest that schools have moved some distance over the second phase of the CIES study in developing and enacting one or more approaches to teaching as inquiry. As with many other aspects of *The New Zealand Curriculum*, the curriculum document itself is not the sole catalyst of these initiatives. Many of the teaching as inquiry approaches we heard about were adopted or adapted from prior professional learning contracts. Nevertheless, *The New Zealand Curriculum* certainly appears to be one key driver, and we can safely assert that teaching as inquiry is helping teachers practice evidence-based teaching. In schools, such inquiry has been aligned with other initiatives such as learning to learn, the development of professional learning communities, and professional learning initiatives that aim to improve measurable outcomes (AtoL, literacy, numeracy and so on). It would appear that teaching as inquiry is one aspect of *The New Zealand Curriculum* that schools are continually reviewing, revisiting and deepening.

Teacher inquiry: *Both individual and collective*

Teaching as inquiry requires systematic attention to teaching skills through reading, observation, modelling, reflection and practice. As the examples above show, when inquiry processes are structured into school practice, experienced teachers can lead the way in modelling effective pedagogy and in supporting other teachers. All teachers can access collegial support and the collegial learning climate gives teachers permission to try new ideas and keep going even when these are not initially successful. Professional inquiry can become “the way we all do things now” and we saw this in a number of cases.

Many of the CIES schools are using a form of teacher inquiry as a vehicle to continue the professional team discussions and explorations that occurred as they initially explored *The New Zealand Curriculum*. As schools’ focus moves to a deeper exploration of how their revised visions and practices might best be enacted in the classroom, teacher-as-inquirer models are being adopted as a way of further building aspects of classroom practice. These schools have built on the teacher-as-inquirer processes suggested in *The New Zealand Curriculum* by continuing to include a strong collegial reflection component in their models, thus enabling both individual and collective learning to be nested together. In this way, practice is deprivatised, knowledge is shared and links to the overall school direction are maintained.

Like so much else about *The New Zealand Curriculum* there is no one right way for teachers to engage with professional inquiry, nor one specific focus that is necessarily more productive. A wide range of topics has been investigated in the early adopter schools—the success factor seems to be simply getting started, and working on topics and problems that align with each school’s vision and direction and which engage the school’s teachers, and are seen by them as having the potential to inform and enhance their practice. Every condition for student engagement (as discussed in Section 3) also potentially applies to teachers as learners and we found that the school leaders were very strategic in structuring professional learning in ways that would engage the teachers.

The tensions of accountability versus exploration

Tensions could arise if accountability approaches to inquiry, linked to processes of teacher appraisal, lead to blaming individual teachers for gaps and problems identified. However, the evidence from the schools and teachers involved in this study indicates that they are working hard, and successfully, on building a culture of openness, trust and collective responsibility so that data collected and analysed are used positively and constructively to improve the outcomes for all. They have, it would seem, avoided negative criticism and blaming individuals or groups.

Limitations to our research methods have resulted in the identification of evidence of inquiry that is mainly located at whole-school or collegial group levels. This study has not definitively established that changes in teachers have led to changes in learner behaviours and achievement. However, our discussions with students in the case study schools showed that they were certainly aware of what their teachers were trying to achieve. This greater transparency between teachers and students was seen as positive by both students and teachers. Future studies that include systematic

observations in classrooms will be needed to gain more information on what is actually being enacted at the classroom level, and the links between these actions and inquiry at the collegial or shared levels of practice.

8. Rethinking relationships between breadth and depth

How are schools ensuring sufficient support and attention to the depth and breadth of learning area content knowledge?

It was common for our research participants—in both the workshops and the case studies—to appreciate the freedom that *The New Zealand Curriculum* gave them to move away from a traditional “coverage” focus. However, some were reluctant to take up this freedom, particularly in secondary schools, if they felt that more of one would mean less of the other. In this section we attempt to move beyond a “balancing” perspective on breadth and depth (which implies an either/or relationship between them) to scope ways in which *The New Zealand Curriculum* does now, and could more so in the future, support the simultaneous development of both breadth and depth in learning experiences.

The nature of the either/or dilemma

When reporting on this question after carrying out and analysing the mediated conversations component of CIES 2 we noted that:

Typically, participants interpreted this research question as being about ‘coverage’. Comments made addressed the coverage implications of taking advantage of the flexibility offered by The New Zealand Curriculum to focus building a local curriculum, particularly as linked to inquiry learning. Participants noted the shift of emphasis from breadth of coverage of common content to opportunities to add depth to learning in rich and varied contexts of interest to teachers, students and/or community groups. (CIES 2, June milestone report 2010)

However, as well as such positive comments, we also heard about ongoing tensions that can be cued when schools consider how to balance breadth and depth:

The specialist classroom teacher from one large urban secondary school noted that some teachers are reluctant to change their teaching because they still see external examinations [as] the most important end point of student learning. She noted that identifying ‘what is important in our subject’ has been a very difficult discussion and there has been much argument from different perspectives, with different subject areas tending to hold different views. She noted the ‘huge shift in staff beliefs’ needed to enact The New Zealand Curriculum. (CIES 2, June milestone report 2010)

These juxtaposed findings illustrate how questions of perceived relationships between breadth and depth reach to the very heart of *The New Zealand Curriculum*’s reconceptualisation of the *goals* of education (whether the relevant thinking has been explicitly considered or is only tacit). Shifts that have already been made from breadth to depth, as reported in the first of the quotes above, are typically associated with inquiry learning, which in turn is associated with a focus on development of key competencies and new approaches to learning to learn (see below and Section 5). However, as the second quote illustrates, if the most important outcome of learning in specific subject areas is still seen to be passing content-based examinations, then issues of coverage are likely to remain foremost in teachers’ curriculum decision making and the tension between breadth and depth will remain difficult to resolve.

As well as rethinking purposes for learning, addressing the breadth/depth challenge requires some rethinking of what we mean by these terms. Traditionally, breadth has been associated with the view that students are best served by encountering a wide range of topics/concepts as “pieces” that can later be assembled to construct bigger picture

thinking, or to use in addressing issues and questions in the contexts of students' lives. In his latest book *Making Learning Whole*, thinking skills expert David Perkins describes this approach to curriculum as "elementitis". He critiques such coverage of disconnected "elements" of knowledge on the grounds that for many students the pieces will fail to "stick" for long enough for individuals to begin to put them together in ways that construct bigger pictures of relevance and meaning for their lives. For many students this is a recipe for a steady decline in engagement with school and, ultimately, lack of achievement (Perkins, 2009).

The concern with depth has been associated with the argument that there are certain fundamental concepts that are more important or beneficial to master than others and that spending focused time on them, at the expense of covering other topics, is a productive strategy. While superficially the opposite of a broad sweep across content, there can also be indications of "elementitis" in this argument. Fewer elements are selected for development and within the scope of the selected topics more effort is made to build immediate connections, but the purpose of learning may still essentially be seen as an acquisition of a growing body of content for later possible use and application.

We would of course hope that students do successfully expand their knowledge base while at school. The challenge is that when breadth and depth are positioned as alternatives, with one needing to be prioritised over the other, the inevitable limitations on available teaching time cannot be satisfactorily addressed. Coverage is always at the expense of depth and vice versa. Those who argue for a complex, emergent 21st century curriculum argue that relationships between traditional binaries (such as breadth or depth) can no longer be seen as "zero-sum games" (Davis & Sumara, 2010)⁶ where more of one means less of the other. We now take up this challenge by exploring different models for relationships between breadth and depth.

Ways of addressing the breadth/depth relationship

This subsection introduces four possible models for addressing relationships between breadth and depth. We report on how each model was manifested in our CIES schools. They are ordered from traditional models where the tensions between breadth and depth are least likely to be satisfactorily overcome to those that point to possible ways to ameliorate these tensions by rethinking the enacted curriculum.

Traditional "coverage" thinking

In this model there is a focus on covering each learning area in a manner that is readily *auditable*. Learning is constructed as a process of acquisition of pieces of authoritative knowledge, with all the associated "elementitis" challenges outlined above.

NCEA has the potential for cueing this model, especially when the mix of achievement standards selected for a course stands as a proxy for thinking about curriculum design and course planning. Where such thinking prevails, secondary teachers are likely to see NCEA as a barrier to giving effect to the more innovative and future-focused aspects of *The New Zealand Curriculum*, other than as a generic support for traditional approaches used to encourage learning such as self-management.

Planning that balances breadth and depth

This way of thinking maintains a traditional content focus but teachers make explicit connections to bigger picture frames in order to provide some coherence/depth to balance the breadth/coverage. Teachers typically take the main responsibility for identifying potential topics and connections through planning and sequencing activities and classroom conversations. Such planning is likely to be co-ordinated within teams and sometimes across the whole school. In the

⁶ In this paper Davis and Sumara address the tensions created when student-centred and teacher-centred learning are seen as binaries. The challenges are essentially the same as those we address here for depth and breadth.

more comprehensive versions that we observed, a school may identify “through-lines” which are big ideas or themes that range across learning areas and that are revisited in successive inquiries in different contexts, often with quite different focuses and associated tasks depending on the year level of the students. This type of curriculum organisation is easier for primary schools to achieve because secondary schools need to co-ordinate learning experiences for specific groups of students across a bigger group of teachers who have different individual content responsibilities.

This model balances breadth and depth in the traditional sense by holding them in tension. After two or three years of such inquiry activity some CIES primary schools were experimenting with backwards mapping (documenting links to the learning area achievement objectives in retrospect) as a means of auditing coverage. However, as the following excerpt from the report on the workshops makes clear, this type of coverage mapping activity (whether prospective or retrospective) is unlikely to ameliorate breadth/depth tensions if basic assumptions about the nature of relationships between breadth and depth and about purposes for learning remain unchallenged:

After two or three years of this type of more contextualised implementation, some schools were now monitoring the topics and concepts that were a curriculum focus and those that had not been addressed. However they had not necessarily resolved the coverage/flexibility tension by finding ways to include areas of the curriculum that had been neglected. Taking this monitoring a step further, some schools had mapped their entire teaching programmes against the curriculum, identifying gaps and overlaps. However school leaders in both primary and secondary schools had found that some teachers were reluctant to adjust their teaching programmes to take account of this information. (CIES 2, June milestone report 2010)

Breadth and depth in “situated” experiences

In this model, breadth and depth are balanced through inquiry processes where the learning action is characterised by a strong emphasis on making connections with students’ out-of-school lives and experiences: for example, there may be a focus on current events or local issues. The learning process involves students in making some type of active use of the knowledge they gain or further develop. Examples include:

- the Problem Based Learning in Teams (PROBLIT) and PLUTO (Please Let Us Take Off) inquiry models developed by the head of department, science at Morrinsville College and now more widely used across the Coronet schools
- Enviro-schools and other projects with an environmental/sustainability approach such as the development of edible gardens or the adoption of a local area of ecological importance for restorative work and ongoing monitoring.

Locating links to students’ lives and interests more centrally in the setting of directions for inquiry entails a somewhat more complex balancing of breadth and depth than the two models above. The model addresses the matter of depth for relevant learning area “elements” but risks a lack of disciplinary coherence if the learning remains essentially episodic and is not connected to disciplinary “ways of knowing” or other potentially related areas of learning. The model provides for effective key competency and skill development but the content focus is likely to be largely authoritative and this is a key difference to the fourth model below.

As we reported after the workshops, a lack of requisite teacher knowledge (and specifically what is called pedagogical content knowledge or PCK) can also be problematic when breadth and depth are balanced via these more complex and participatory inquiry models:

Some primary school participants expressed the concern that the science and technology learning areas are ‘in jeopardy’ because even experienced teachers are less competent and confident with more participatory and flexible learning approaches. Nor is this challenge necessarily restricted to those

without specialist subject training. Secondary school teachers can also need different types of knowledge to teach in ways that keep the content integrity while also reflecting inquiry contexts. They also need to learn how to change their assessment practice to reflect the shift in intended outcomes. (CIES 2, June milestone report 2010)

Connected knowing that is broad *and* deep

In this model, learning can be characterised as enabling *connected knowing* that is both broad and deep at the same time. Students learn in ways that broaden their awareness of the connectedness of ideas and actions in the world. At the same time, this growing awareness of “how things work in the world” cannot help but lead to deepening insights about themselves, the contexts in which they live and learn, knowledge in the wider world and so on. The focus is on gaining knowledge that can be used flexibly to do things, now and into possible futures. Thinking about what such learning could look like, David Perkins notes:

It's likely not routine but requires thinking; it's not just problem solving but involves problem finding; it's not just about right answers but involves explanation and justification; it's not emotionally flat but stimulates curiosity, discovery, creativity, camaraderie; it's not in a vacuum but engages methods, purposes and forms of disciplinary or other practice in a social context. (2009, p. 52)

Learning is conceptualised as a process of participation that involves a developing understanding of what it means to be a learner and an active participant in the world. Perkins' description also points to the importance of making explicit the nature of knowledge generation and legitimation in the different learning areas—that is, helping students learn about the “nature” of a subject. Perkins refers to this as a “hidden” aspect of all traditional learning (both intended school learning and learning via other experiences in the world). He identifies four curriculum dimensions that teachers need to bring out of hiding to explore with their students for them to develop as confident and connected learners and knowers:

- **Self-management of learning:** surfacing and practising powerful strategies that support all students to be more deliberate in their approaches to learning, and in the transfer of ideas and strategies.
- **Rules of the game:** different ways of establishing legitimated knowledge. For example: establishing formal proofs in mathematical thinking; building theory from empirical evidence in science; and creating narratives that synthesise multiple perspectives in history.
- **Causal reasoning:** this includes a growing understanding that explanations are developed in different ways in different discipline areas. It also includes nonlinear or systems thinking so that students become more critically aware of multiple connections between events and the unpredictability inherent in real-world events with all their contingencies.
- **Hidden power:** also known as critical pedagogy, this involves supporting students to explore beneath the surface of events, language and other structures and practices, ways of being in the world so that they can be more effective in the actions they choose to take.

Encouragingly, there are strong resonances here with some areas where we have seen big shifts in curriculum practice, most especially at the intersection of key competencies and learning to learn (see Section 5). However, aspects relating to systems thinking, developing an understanding of the nature of disciplines, or use of critical pedagogy, are as yet less common. The following vignette describes how the idea of critical pedagogy can be woven into the very fabric of the curriculum and the school.

Building pedagogy that takes account of learner identity: A workshop vignette

The principal of twin low-decile schools on one campus described their curriculum development as having been “20 years in the making”. It is not so much that *The New Zealand Curriculum* has enabled change as that it is congruent with the school’s existing directions. The school has a “no labels” philosophy where students are seen as having unlimited potential and any current under- or low-achievement is framed as unrealised potential. They have adopted an “activist, critical pedagogy” where students are seen as “warrior scholars” en route to achieving the graduate profile which has been developed from the model in the front end of Te Marautanga o Aotearoa and differentiated for Years 8, 10 and 13. They use three “power lenses” (self-learning, school learning and global learning) to focus programmes and interweave front-end ideals with learning areas. Their self-learning lens puts the students at the centre of a network of learning support that includes home and whānau, culture and heritage, spirituality, values and beliefs, identity, self-efficacy and potential. This focus fosters an awareness of and resistance to situations where others hold lower expectations of them by virtue of stereotypes related to their cultural background and skin colour (hence warrior scholars). The whole school community has developed these ideas into an assessment tool that allows students to self-reflect, and to hold high expectations and work towards achieving their personal and collective goals. The tool allows staff to plot student progress over time. Initially, judgements were based on teacher observations but the schools have now expanded the process to include students and whānau in making the judgements of overall progress.

In the school featured in the above vignette, inquiry topics are negotiated a term in advance of their use. This strategic timing supports teachers to anticipate and address gaps in their own knowledge so that they are as well prepared as possible to support students’ unfolding inquiries. Furthermore, in the senior secondary school, part of the negotiation of the bounds of the inquiry involves the students and teacher in the identification of suitable NCEA achievement standards with which to assess achievement gains. In this way NCEA is not be a barrier to this type of innovative student-informed curriculum making. Because the focus of the workshop discussion was on the school’s pedagogy in general, we have no information about whether specific topics have been taught in ways that develop an understanding of the nature of different subjects, as highlighted by Perkins (2009). Nevertheless, the example provides indications that developing connected knowing is indeed possible if schools work on developing a thoroughgoing curriculum philosophy, matched by appropriate planning and assessment processes and structures.

Issues and challenges for developing connected knowing

Leader and teacher comments such as those summarised above suggest we need innovative examples to show how curriculum could be enacted so that students learn in ways that help them make connections that keep their learning simultaneously deep and broad, which in turn should support increased success in high-stakes assessments and the participation in society that is envisioned in *The New Zealand Curriculum*. In terms of “next steps” for curriculum resourcing, and ideally ongoing development of *The New Zealand Curriculum* itself, several important new areas of work are suggested by our analysis:

- *The New Zealand Curriculum* does not provide guidance on new thinking about disciplinary knowledge and the meta-knowledges/skills/dispositions needed to be a confident, connected, actively involved participant in the disciplines or user of the disciplines as a citizen. Only the Science and Technology learning areas make explicit reference to the “nature” of the subject, and even here resources that exemplify what this could mean for changing the focus of teaching and learning are not easy to find, nor are these ideas strongly cross-linked to the

“front end” of *The New Zealand Curriculum* (for example, integrated with key competencies or learning-to-learn approaches).

- Although the learning area “essence” statements do provide clear signals about purposes for learning, these do not in a visible way flow through into the specific achievement objectives. Alignment work needs to be grounded in a wider conversation about the focus and structure of each learning area, what it is important to learn and why.
- We also need examples that show what depth and breadth could look like at different levels of the school curriculum. Again, this is a conversation that *The New Zealand Curriculum* implementation has not yet surfaced to any noticeable extent, perhaps because of the “seamless” structure of eight curriculum levels. In 2010, school-wide discussions were focused on student achievement and actions to raise this rather than any deep consideration of how questions such as how “big ideas” might manifest in different contexts for children with different levels of sophistication in their understandings. The interrogation of questions such as this one is likely to evolve in a similar manner to the recursive elaboration of the key competencies, and could well be part of ongoing developments in curriculum conversations about these.
- Transfer of learning is implied in the definition of key competencies but transfer is not directly discussed in *The New Zealand Curriculum*. Recent directions taken by researchers’ debates about “transfer” highlight “deep knowledge” as being *widely* networked to ideas, contexts *and* action possibilities (Wagner, 2010). Students show they know when, where and how they might deploy their learning and they display a sense of purpose and confidence in doing so. This conception of depth necessitates supporting students to make connections between the learning areas and between their school and out-of-school lives, now and into the future, in line with the *community engagement, coherence* and *future focus* principles. Again, further work on aligning the learning areas and the front end of *The New Zealand Curriculum* is implicated.

Benefits for developing connected knowing

As this section shows, models that rethink curriculum relationships between breadth and depth are conceivable and possible to build within the structure of *The New Zealand Curriculum*. They are likely to create very powerful learning experiences for students that do result in achievement gains. However, they also present a number of strong challenges to traditional curriculum thinking and practice, and as indicated above they have considerable resourcing implications.

Programmes such as that described in the box above are currently exceptional rather than commonplace. Leaders and teachers in our early adopter schools were well aware that change would need to be ongoing—the powerful revisions to their earlier learning as they developed greater insights into key competencies, for example, have shown them that there are likely to be still more new horizons. In relation to addressing the question of breadth and depth, the following ideas could prove fruitful stimulus for *ongoing* change because they address the substantive issues while also highlighting potential benefits to be reaped:

- The explosion of knowledge during the 20th century (and ongoing now) has reconfigured the meaning and challenge of “coverage”. It is now futile to hold expectations that one agreed canon of knowledge could be identified and addressed by all students and in so doing would set them up for what they will need to know in their adult lives. New curriculum conversations could directly confront this futility while also helping teachers more deliberately reflect on purposes for schooling in general, and the learning they hope to support in particular.
- Studies of student engagement have shown that when teaching and learning link to students’ everyday experiences they are more likely to engage with, and persist with, a particular area of study. Our early adopter

schools are already seeing increased engagement as one of the fruits of their curriculum changes: teachers' work is more satisfying when students are engaged. Gains here could be further leveraged as the school curriculum continues to evolve.

- The press for student-centred curricula means that many of the specific learning outcomes addressed within a teaching sequence will be emergent rather than pre-specified. This poses a challenge for teachers if this imperative is coupled with a detailed auditing of “coverage” and/or evaluative assessment against prescribed standards. Rethinking coverage practices, coupled with opportunities to experience the transformative impact of powerful personal learning (for both teachers and students) could ameliorate a significant source of professional anxiety for school leaders and teachers alike and simultaneously sustain the energy and effort needed for ongoing change.

9. National Standards and *The New Zealand Curriculum*: A continuum of possibilities

How are the National Standards for Years 1–8 helping schools attend to literacy and numeracy demands across the curriculum?

In the June 2010 milestone report for this project we reported that the response to this question from the school leaders and teachers who participated in the research workshops was near unanimous:

National Standards were broadly seen as not helpful to curriculum implementation and less informative of progress in literacy and numeracy than the progressions that pre-dated their development. Participants commented that National Standards seemed to come from a different philosophy to The New Zealand Curriculum—one that would make it hard to keep up the momentum of the implementation journey. (CIES, June milestone report 2010)

The in-depth data available from the case study schools provide a more nuanced view than the “snapshot” conversations of the workshops. In these early adopter schools, working to strengthen the achievement of every student via evidence-based practice was widely understood to be central to *The New Zealand Curriculum*. For this reason these school leaders were not opposed to National Standards per se. However, they did have concerns about the manner of implementation of the standards initiative and some of the proposed detail. They felt that the process had been too rushed and that, as a result, important questions they raised had not been answered adequately. Like some of the leaders in the workshops, they thought implementation cut across the autonomy they had already exercised in building a local curriculum for their students’ needs. There was a sense that these schools were making the best of the situation that now confronted them. They did not want to be diverted from the vision and direction they had developed for their school (which incorporated *The New Zealand Curriculum*) so they were working to shape the standards initiative to retain their autonomy in working towards what was best for their students. This can be illustrated by the responses of the four case study primary schools in the PPLG cluster.

Working together to align *The New Zealand Curriculum* and the National Standards

Four of the case study schools that formed a PPLG cluster shared the concerns expressed in the workshops, but their leaders had worked together to adopt the standards in ways that aligned with their ongoing curriculum journey:

We were heading down that way anyway. We are using the National Standards in a proactive way. We will use the National Standards to inform, rather than direct us. (Comments made by leaders in one school)

What we have, the National Standards fitted in with. (Leaders in another school)

“Heading down that way” had been supported by several powerful professional learning experiences during 2009—before the standards were released. Taking part in the international assessment symposium in Queenstown early in that year had provided rich insights for ongoing PPLG conversations. During that year all four principals had also undertaken professional learning offered by Lester Flockton focusing on the “connected curriculum” and the “healthy practice pyramid” for classroom assessment and triangulation of results. Coming soon after the symposium, this experience reinforced these leaders’ determination to use assessment data, including classroom-generated data, to

ensure that all assessment practice first and foremost supports learning. Specific changes these schools have made include:

- One school has focused on improving moderation practices. For example, the teachers watched and discussed student strategies captured in the Numeracy snapshot videos to develop shared views of the meaning of the evidence. Partly as a consequence of literacy professional learning, and partly in response to the standards, the teachers in this school are now more focused on skill development (for example, daily practice in basic facts and spelling).
- Another school had already developed benchmarks/standards for their students and perceived these to be set at a higher level than the National Standards. Nevertheless they revisited this work with an intention of sharpening their assessment practices. This had prompted “a really good discussion about numeracy” and also led to some refinements to moderation processes. With a renewed interest in national benchmarks the school had begun using PATs again. Compared to past use of these tests the teachers were finding the new PATs to be more worthwhile because they could use the results formatively to drive next learning steps. At the time of the final field visit in mid-2010 the teachers in this school were developing templates to triangulate data sources. They aimed to ensure that Overall Teacher Judgements (OTJs) would be rigorous and transparent. Some teachers expressed excitement about the in-depth information this could give them.
- Another school has reaffirmed its commitment to focusing on *The New Zealand Curriculum* as the source for pedagogy in literacy and numeracy, and is making considered decisions related to the standards based on this foundation. They are working on building individual learning pathways for students, with next learning steps referenced to the National Standards and *The New Zealand Curriculum*.
- The fourth school in the cluster has also made introduction of National Standards a focus of staff professional development. The teachers said they want “to take control of National Standards rather than them taking control of us”. This school had recently held a community evening to explore the question “How can you help develop your child’s literacy?”

All four schools have revisited their practices for reporting to parents, including ensuring the language they use is clear and direct. (They have concerns about the recommended language for reporting and are developing their own models.) Associated with this, the schools are experimenting with multiple ways to involve students in conversations about their progress and achievements. These two aspects come together in parent–student–teacher conferencing where goals and progress are openly discussed in relation to evidence of achievement. Although the teachers at one school were initially concerned about how they would have these explicit conversations with students, they became more positive once they saw that the students were supportive of these developments (which in this case included both the reporting to parents of PAT results and the discussion with students of results of assessments against classroom generated short-term learning goals for basic facts and spelling):

It’s good to have your mum and dad know where you are.

It’s fun. I like doing it. I think it’s good to beat your score.

Interestingly, these students were less enthusiastic about annual goal-setting booklets. They could not see how these contributed to their day-to-day learning:

We need time to work on our goals in class, otherwise what’s the point?

Two of the other case study primary schools described similar processes of adaptation of standards to their ongoing curriculum journey. They, too, had already invested considerable energy in achievement-focused collaborative professional learning. Leaders in these schools also felt they were “well ahead” of the standards implementation

process, while acknowledging the positive potential for the standards to sharpen their existing assessment practices. Nevertheless they did share some of the concerns we heard expressed in the workshops early in 2010.

The main areas of concern and opportunity

Tensions between National Standards and *The New Zealand Curriculum* “content”

Primary teachers’ concerns tended to relate to the detail of the standards. For example, questions were posed about the relationship between the numeracy standards and the Mathematics learning area of *The New Zealand Curriculum*. These standards were seen to potentially give teachers a greater clarity about what students need to know, but to do so at the expense of narrowing the maths curriculum.

As we reported after the workshops, strengthening literacy as defined by the standards is also seen to have the potential to narrow the curriculum if it leads to a focus on basic skills at the expense of richer engagements with texts of many types:

... the general direction of change was towards the success in raising achievement that came from enriching and broadening literacy learning opportunities. In this view rich purposeful talk can provide rich opportunities to unlock writing, as can writing for a specific purpose and artefacts such as action photos can mediate telling, writing and subsequent reading of personal learning stories. This view resonates with recent research on links between e-learning and literacy (McDowell, 2010) and on the integration of key competencies into reading programmes (Twist and McDowell, 2010). The challenge here is to ensure that implementation momentum is sustained, contrary to the commonly expressed view that National Standards are an impediment to continuing with current directions of The New Zealand Curriculum exploration and change. (CIES, June milestone report 2010)

In the case study secondary schools, leaders and teachers expressed concerns about the potential of the standards to narrow the taught curriculum. Based on their experience of NCEA some teachers wondered whether the standards would lead to “teaching to the test” in primary schools. This was not something they supported.

Tensions between National Standards and student-centred intent of *The New Zealand Curriculum*

As in the workshops, the case study primary school leaders and teachers were concerned about the potential of summative reporting practices for National Standards to undermine the intent that *The New Zealand Curriculum* be used to design a local curriculum to address students’ differing learning strengths and needs. These concerns tended to centre on overly simplified *reporting* of students as being “below the standard” because, as outlined above, they could see how to use the standards positively to sharpen assessment for learning during classroom work.

The New Zealand Curriculum structure of overlapping curriculum levels was designed to be responsive to students’ actual learning needs regardless of their chronological age, school year level or specific learning needs. By contrast, leaders in the case study primary schools noted that an assumption that all students should be able to reach a standard at the nominated chronological age seems to underlie the National Standards policy. Leaders were concerned that this is not possible for *all* primary school learners to meet the standards in a lock-step manner from year to year: some have serious learning difficulties related to conditions like dyslexia or attention deficits; other children are well below average in intellectual functioning; for others, English is a second language and yet others come with a breadth of knowledge and life experience that does not necessarily align with the requirements of school learning and the standards as they are currently framed. These children may reach the literacy and mathematics standards eventually, but not at the prescribed time.

Associated with this concern, school leaders and teachers identified possible negative effects of labelling children as ongoing failures as a result of standards reporting. For example, one principal was of the view that providing full details

of numerical results for early primary students to parents may begin an annual cycle of reinforcement of the failure of particular children. It was claimed that such labelling of failure ran counter to a philosophy in *The New Zealand Curriculum* of effective teachers helping their students make progress and achieve to the best of their abilities, and recognising that not all can achieve at the same level at the same age.

These concerns indicate an ongoing tension for school leaders as they implement both *The New Zealand Curriculum* and National Standards, particularly in relation to the reporting of student achievement to parents and school boards. At the time of the fieldwork in mid-2010 primary school leaders were in a phase of investigating how they would proceed in future. Indications were that school leaders would welcome professional support and opportunities to network and share emerging practice in this area.

Concerns about making overall judgements

Integration of evidence from multiple sources is an area of concern, and has already been a focus of professional learning in some of the workshop and case study schools. There are two issues in this. The first is that teachers across a school need to develop a shared understanding of what is involved in generating data from different sources that can be meaningfully assessed against the standards. For example, what it means to generate observational data is complex and poorly understood even in the assessment research community. This issue speaks to matters of validity and reliability which become more critical when data are decontextualised and used to make comparative judgements that may have longer term implications for teachers and students. The second issue concerns how and for what reasons it is legitimate to combine data from different contexts and modes of assessment to make an overall judgement.

Moderation of writing is expected to prove even more challenging, with teachers anticipating difficulties in interpreting the exemplars and criteria. The June CIES milestone report described moderation work in this area in at least one workshop school:

One school assembled examples of writing from across the school then the whole staff had assessed these examples. Judgements were shared and outliers discussed to establish reasons they had not been seen to be within range. Groups then looked in detail at work from children at different levels, a process that had broken down the assumption that older children necessarily produced higher quality work. In this school individuals are now confident to analyze work and only discuss examples more widely in instances where they are not sure about their judgement. (CIES, June milestone report 2010)

The teacher describing this practice depicted it as time consuming and challenging but also noted its contribution to deprivatising practice and building a shared sense of responsibility among the participating teachers. It was seen to have value as a professional learning exercise. Depending on how this process is orchestrated by school leaders, moderation would appear to have the potential to provide a focus for discussions on the nature of learning in different topics and learning areas as signalled in Section 8: Rethinking relationships between breadth and depth.

Concerns for later adopter schools

Principals who are confident in their own school's ability to accommodate the National Standards into their ongoing curriculum work are conscious that they do so from an existing position of strength, with ongoing collaborative professional learning well established in their schools. The time it takes to achieve this shared sense of unity of purpose and deprivatised practice was a recurrent theme of the case studies. Mindful of the challenges of their own school's *The New Zealand Curriculum* journey, and of needing to work hard not to be diverted from this by the standards initiative, these principals worry for schools that have yet to reach this point on their *The New Zealand Curriculum* implementation journey. Specific concerns include that implementation of National Standards will take the focus off *The New Zealand Curriculum* just as later adopter schools are beginning to get to grips with its intent and divert these schools from the strong focus on student engagement seen as so important within *The New Zealand Curriculum*.

The push of data-driven accountability and the pull of professional inquiry

In his well-known work on assessment for learning, Dylan Wiliam contrasts the “push” from outside schools to meet data-driven accountabilities with the “pull” of professional commitment and curiosity as teachers reflect on the meaning of assessment data derived from learning episodes in their classes. He argues that the “pull” of their own inquiries will always provide a more compelling reason for teachers to change their practice than will the externally generated “push” (Wiliam, 2008). National Standards are a push the early adopter schools did not need. They will make the best of them, but their deep commitment to students lies elsewhere.

The New Zealand Curriculum principles aim to put the student at the centre of teaching and learning and seek to ensure that they experience:

a curriculum that engages and challenges them, is forward-looking and inclusive, and affirms New Zealand's unique identity. (Ministry of Education, 2007, p. 9)

It was evident from comments made at the workshops and during case study interviews that this principle had considerable “pull” for teachers in primary schools. The idea of placing students at the heart of their learning resonated with school and teacher visions for students. The demand that teachers meet the requirements of the standards to report against chronological age is in tension with the more student-centred approaches that fit with the imperative in *The New Zealand Curriculum* that schools are responsive to student and community local strengths and needs.

This tension is felt all the more acutely because of the personal and collegial commitment that leaders and teachers in early adopter schools have put into *The New Zealand Curriculum* implementation. Studies elsewhere have demonstrated that student-centred teaching tends to be more time consuming and unpredictable than teacher-centred approaches (Alexander, 2000; Kennedy, 2005). It requires more effort from teachers and it takes more time. Furthermore, it seems that the constraint of time is felt more strongly by teachers working with low-achieving students (Grant, 2009) and during educational reforms (Alexander, 2000). As already noted, teachers perceive the potential for negative impacts on low-achieving students if standards are set too high and the schedule for progression is too fast for some students. Given the increased diversity in student backgrounds, knowledge and expertise it would seem important that this issue is given serious attention in the near future.

Where CIES schools were already engaged in discussion and development of benchmarks for student learning and achievement their response to the National Standards was much the same as their response to the vision statement in *The New Zealand Curriculum*. They engaged with the standards from a position of strength. They had confidence in their own benchmarks, developed over time and based local evidence of the needs and strengths and responses to teaching of their students. Their approach was to consider what insights the National Standards had to offer that would help them build on from their current practices and resources: that is, they engaged in critical and constructive dialogue around the standards. These schools were just as likely to integrate the national versions into their own benchmarks as they were to begin with then customise the National Standards. Some schools had chosen to use both when reporting as an interim transition process to ensure a continuity of understanding for their parent community. In this way these schools and teachers demonstrated qualities that Fairbanks et al. (2010) describe as “thoughtfully adaptive”. Their confidence in their vision for their students and sense of belonging to a committed professional community has allowed them to “push back on the institutional and social narratives that push on them” (Clandinin, Downey, & Huber, 2009, p. 151). It is important that this dynamic is appreciated and accommodated in ongoing work with the National Standards so that any negative components to these schools’ reactions are not seen as opposition for the sake of being opposed.

10. Accessing and using resources to help lift achievement in the secondary schools

How are secondary schools using *The New Zealand Curriculum* and targeted secondary resources to improve student achievement, particularly in the senior school?

This question points in two directions—the uptake and use of resources targeted to secondary education, and/or the nature of actions undertaken to improve achievement in the senior secondary school. While obviously overlapping, the two directions could be seen as *framing* the analysis somewhat differently. The second of these directions points to the manner in which relationships between NCEA and *The New Zealand Curriculum* are perceived. Since the high-level answer is that NCEA is generally seen to dominate curriculum in the last three years of secondary school, we explore this way of framing of the question more fully in Section 11 which addresses barriers and enablers of curriculum change. In the current section we discuss the resources that teachers do (and don't) recognise as being aligned to *The New Zealand Curriculum* implementation, and we reflect on the nature of resources as simple, compound or complex agents for curriculum change with associated potential for enabling changes in achievement levels.

The relative invisibility of targeted resources

The uptake and use of targeted resources was centrally framed when, following the secondary teacher workshop in Auckland early in 2010, we reported as follows:

When this question was raised, a common first response was 'what resources?' Yet when prompted by the naming of examples, more specific comments were able to be made. We concluded that teachers are often unaware of the source of materials (they often seem to access these through subject associations, regardless of the originating source), or if they do know about them, do not necessarily link them to implementation of The New Zealand Curriculum. The majority of participants were unaware of the middle-management website, even if they were in faculty-leader roles. Similarly many seemed unaware of the senior subject guides. One teacher said she had looked for them without success so far. Various NCEA resources are being accessed (but were not linked to the curriculum implementation until prompted). (CIES, June milestone report 2010).

Of the 10 schools in the case studies, only two are secondary schools and there is one area school. Some comments were made about resources by teachers in these schools—largely concerning the nonavailability of so-called “second tier” resources. A notable exception to this is the social science booklet series *Building Conceptual Understanding*, which has been well received.

Tellingly, this question prompted some of the case study teachers and leaders to observe that *The New Zealand Curriculum* implementation was more applicable to Years 9 and 10, because NCEA dominates the senior secondary years. When prompted to think of NCEA resources as potential curriculum resources, some teachers commented that the restructured NCEA site was easier to access and that the annotated student examples and moderators' reports were extremely useful. Several teachers reported accessing the discussion documents for the standards review, and specifically the proposed changes to literacy and numeracy requirements for NCEA. In the secondary teacher workshop, this conversation then veered off into a discussion of implications flowing from the removal of many existing unit standards as part of the standards review. Implicitly, what could be assessed for NCEA was seen to determine what could be in the curriculum.

Simple, compound and complex resources: Lining up the ducks

Michael Fullan (2010) differentiates between simple, compound and complex resources. The differences matter because there are implications for the way in which resources are recognised, taken up and impact on change:

- *Simple* resources are individual, specific resource packs, books, Web programs, student work exemplars, assessment tools, professional development initiatives etc.
- *Compound* resources combine any two of the above to work together. An example might be a resource pack supported by a professional learning package designed to support appropriate use of this pack.
- *Complex* resources combine and align at least three simple resources (and typically even more) in ways that ensure they work together in support of a very few powerful goals/changes.

Looking back at what we asked about, then reported in the June milestone and subsequently searched for in our case study interviews with secondary teachers, it now seems clear our initial response related to the recognition and uptake of *simple* resources. All of the above discussion is set at this level and it is clear that the responses add very little to our collective knowledge about how best to support ongoing implementation, especially in the light of the moral imperative to raise achievement of all students. If deep and sustainable change is more likely to be achieved with complex resourcing, as Fullan (2010) argues, then we need to reinterpret the data within a more complex framing that considers how resources can align and work together. This more complex framing of the resourcing challenge is the focus of the remainder of the section.

A complex framing of resourcing

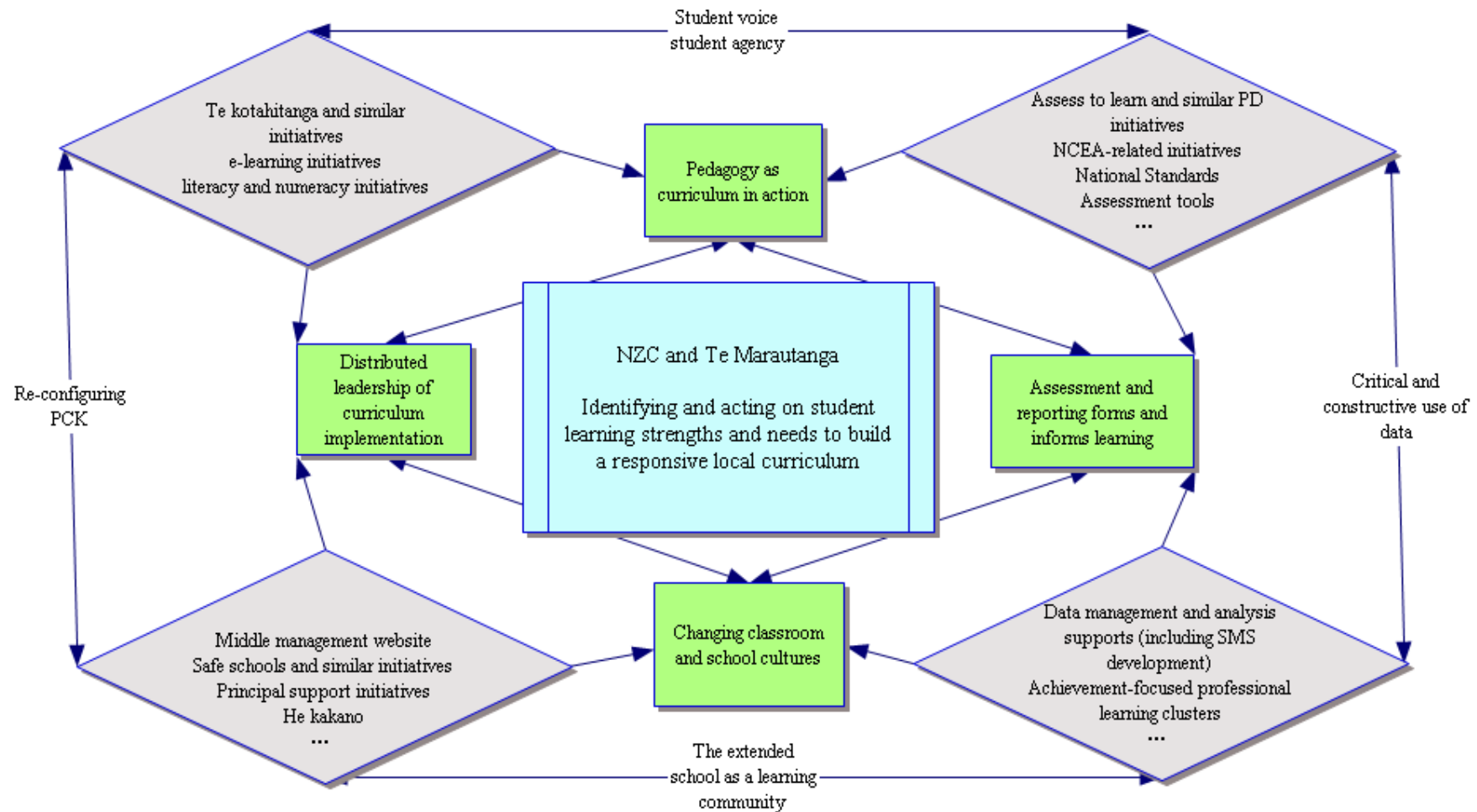
We initially developed the graphic in Figure 4 as we pondered why resources are not more visible to secondary teachers. We wanted to explore why it might be that resources are not more visible in the light of *all* the data we had gathered during the project, not just what the secondary teachers had said about the lack of resources. We wanted to also draw on our emerging insights from the second-round analysis and on our reported findings from the first round of the CIES studies (Cowie et al., 2009). Resources have an important role to play in building capacity for change in interaction with documents that provide clear directions for such change (for example, *The New Zealand Curriculum*) and it seemed to us that carefully addressing this puzzle could potentially unlock powerful new insights into the overall curriculum implementation process.

Our subsequent encounter with the idea of complex resourcing reinforced the direction our analysis had already taken. The graphic in Figure 4 has at its heart a representation of our current thinking about how the different components of the study might come together to describe how schools are revising or revisioning their curriculum and curriculum practices to reflect the needs of their students and community. Laying out *all* the main components that potentially contribute to *The New Zealand Curriculum* implementation in this way gave us a visual tool to “think with” as we searched for potential alignments of resourcing within a complex model of curriculum support.

The graphic positions students as front and centre, acknowledging that *The New Zealand Curriculum* positions them in this way, with the overarching vision being to contribute to students who are confident, connected lifelong learners. This framing also acknowledges other policy initiatives such as Ka Hikitia and the Pasifika Education Plan that have important implications for curriculum and pedagogy, and are resources for schools in their own right. This framing directs our attention to the manner in which the various resources that could support curriculum implementation are being used to lift student achievement.

Arrayed around the students we have identified four key *action areas* that interact with students to provide opportunities for learning congruent with the curriculum intent. These four key action areas were identified as central to the initial curriculum implementation actions and decisions in our early adopter case study schools (Cowie et al., 2009). They are about what leaders and teachers perceived they needed to do and have subsequently enacted in their schools.

Other research on curriculum implementation in the New Zealand context also endorses the important role of these four action areas in school and teacher change. Most importantly for the discussion in this chapter, and as Figure 4 shows in the grey diamonds at the corners of the diagram, all of them can be linked to support and resources of one type or another provided by MOE or the New Zealand Qualifications Authority (NZQA). An explanation of the four action areas follows the diagram.

Figure 4 Direct and indirect state resourcing of *The New Zealand Curriculum*

Pedagogy as curriculum in action

This action area became a central focus of change in the early adopter schools once teachers identified the need to attend to both the front and back end of *The New Zealand Curriculum* and to how the new approaches signalled there might be integrated into actual teaching and learning. Curriculum change was seen as being as much about changing pedagogy as changing what was taught. This finding has more recently been endorsed in mid-2009 responses to NZCER National Survey of Secondary Schools. Both principals (95 percent) and teachers (81 percent) acknowledged the need to “change aspects of pedagogy” as *The New Zealand Curriculum* is implemented (Hipkins, 2010).

Distributed leadership of curriculum implementation

The first CIES round showed that leadership is centrally important to curriculum implementation. The School Curriculum Design and Review section of *The New Zealand Curriculum* (pages 37–42) positions leadership as a cornerstone to giving effect to *The New Zealand Curriculum* as a framework curriculum. Factor analysis of teacher data from the 2009 NZCER National Survey of Secondary Schools also endorses the importance of principal leadership as key to the successful establishment of a collegial learning culture in a school (Wylie, 2010). However, both this survey and the Leadership Best Evidence Synthesis (Robinson, Hohepa, & Lloyd, 2009) indicate that achievement-focused inquiry is not well established in many secondary schools. This suggests that such leadership needs to be a focus for ongoing effort, at all leadership levels of the school. The Middle Managers website developed to support *The New Zealand Curriculum* implementation was designed to take up this challenge.

Assessment and reporting that forms and informs learning

Since the late 1980s New Zealand has been at the forefront of assessment development internationally—see, for instance, the seminal paper by Crooks (1988) and the *Assessment: Policy to Practice* document (Ministry of Education, 1994). A series of policy initiatives and structural reforms that have acknowledged the linkages between assessment, curriculum and pedagogy (Carr et al., 2000) has served to keep us there. New Zealand teachers and schools have enjoyed a high level of freedom and responsibility in the design of assessment tasks, the inclusion of teacher assessment in assessment for qualifications and in the nature and focus of reporting to parents. *The New Zealand Curriculum* includes explicit advice about assessment and makes it quite clear that assessment is a part of the curriculum. The most recent overarching assessment policy (Ministry of Education, 2010) includes a set of principles that reinforces *The New Zealand Curriculum* principles for curriculum decision making (Ministry of Education, 2007, p. 9).

Changing classroom and school cultures

This is the fourth action area in Figure 4. The vision, the values and principles in *The New Zealand Curriculum* have a strong socioecological orientation. For instance, the values statement asserts that every curriculum decision and every interaction that takes place in a school reflects the values of the individual involved and the collective values of the institution (Ministry of Education, 2007, p. 10). Thus, there is an explicit recognition that values operate at the level of the individual and the collective. Two of *The New Zealand Curriculum* principles explicitly underscore the need for culture change. Curriculum *coherence* cannot be achieved unless the school culture for learning is a focus. The *community engagement* principle states the curriculum needs to have meaning beyond the classroom. *The New Zealand Curriculum* includes explicit advice about school-based curriculum development that includes consulting with communities.

Links between the action areas and targeted resources

The diamonds in the outermost layer of Figure 4 identify four broadly different types of resources that MOE, and in some cases NZQA, have provided to build capacity to support the implementation of *The New Zealand Curriculum*. This is not intended to be an exhaustive list of all the resources available. Rather, our aim was to identify *clusters of resources* (that is, potentially complex resources) that support change in different ways. Although some can be directly

linked to *The New Zealand Curriculum*, mostly they provide *indirect* support as part of aligned/complex resource clusters.

Some resources provide pedagogical strategies, and rationales for wanting to use these, that are congruent with *The New Zealand Curriculum*'s vision, values, principles and/or key competencies. For example, the resources in the top left-hand diamond all model specific types of responsiveness that have implications for building a coherent local curriculum.

The resources in the top right-hand diamond also inform pedagogy but, rather than doing so from the perspectives of students' cultural identities, interests and life contexts, they do so by drawing attention to the need for teachers to check the meanings that students construct for the learning experiences in which they engage. Responsiveness here relates to the formative use of assessment and, in the case of NCEA resources, to building more explicit connections between curriculum and high-stakes assessments. When designing these NCEA-related resources attempts were made to exemplify the impact key competencies could have on the taught and assessed curriculum of the senior secondary school.

The resources in the lower left-hand diamond provide middle and senior leaders with resources to use for teacher support and change, or for addressing aspects of the wider school culture and climate. The resources on the lower right provide tools and networking support for the schools as they carry out practical tasks associated with implementing evidence-based practice.

Gaining greater leverage through complex resourcing

The provision of state-funded resources to support an important policy change acknowledges that actions and practices are *afforded* by the resources available to those who must make the actual changes. Gee (2008) describes affordances as "action possibilities posed by objects or features in the environment" (p. 81). Drawing on sociocultural theory (from which the idea of affordances originated) we could predict that resources become affordances for action only when teachers:

- are aware of their availability
- can access them easily
- understand their intent
- can see how they potentially link to *The New Zealand Curriculum*
- can see how they fit into the "bigger picture" of their professional work and ongoing learning
- value what is being modelled
- are prepared to give the change a try (which is likely to be linked to estimations of likely success).

In all these ways, the affordances that resources potentially offer are realised only when individuals see ways to transform their intentions into action and are willing to invest the necessary effort to do so.

It seems to us that the varied resources named in the grey diamonds are more likely to be meaningfully linked to the "big picture" of *The New Zealand Curriculum* implementation when certain underpinning theoretical ideas and assumptions are visible and well understood by the intended users. Four such areas of theoretical thinking are signalled on the arrows that join the grey boxes. However, the ideas encompassed by the relevant theories are not always evidence and many teachers hold tacit views about them, of which they may not even be aware. Illustrating this point, the discussion of student engagement in Section 3 describes how the concept of "student voice" may be understood (or

perhaps misunderstood) in a range of different ways. If this link is missed it would be possible to access any of the resources in the top two diamonds and use them in ways that do not realise their intent to build more the responsive teaching and assessment pedagogies described in *The New Zealand Curriculum*.

Similarly, Section 4 discusses a lack of clarity about the purposes for fostering greater community engagement in curriculum decision making. The challenge of creating conditions where the whole extended school community might learn together how to remake a curriculum for the 21st century still lies in the future for most schools. In that case some of the resources listed in the bottom two diamonds might be seen as simply strengthening the routine work of school, not necessarily related to implementing a new curriculum for a new century.

Section 9 discusses efforts being made by leaders in the early adopter primary schools to reconcile the National Standards with *The New Zealand Curriculum*. Integrating *The New Zealand Curriculum's* focus on learning to learn with specific disciplinary learning in ways that do lift achievement requires that assessment is used first and foremost to support students' learning progress, even when the data also have other intended uses such as for accountability purposes. The critical and constructive use of data requires sound "assessment literacy" and there is evidence that increasing capability in this area is an ongoing challenge (Absolum, Flockton, Hattie, Hipkins, & Reid, 2009). Resources that link assessment feedback to next learning steps, as in more recent Assessment Resource Bank items, are one way of building teacher capacity in this area. However, these currently cover only a limited range of curriculum areas, and were not in any case mentioned by any of the participants in the secondary teacher workshops. If they do use them, teachers perhaps do not see them as linked to *The New Zealand Curriculum's* intent to put students at the centre of learning, but rather as supporting "business as usual".

Finally, Section 5 reported that key competencies are most often being used generically (for example, with a focus on learning to learn). Discipline-specific changes in response to their integration with "content" are not as common and teachers are typically using the key competencies to strengthen traditional learning. New pedagogical *content* knowledge (PCK) is needed if this is to change. For example, e-learning initiatives are currently most likely to be linked to *The New Zealand Curriculum* implementation via a carry-over of one of the inquiry models commonly used by professional learning providers in this area before *The New Zealand Curriculum* was released. *The New Zealand Curriculum* explicitly exhorts schools to use ICT to "open up new and different ways of learning" (Ministry of Education, 2007, p. 36) but to do this inquiry needs to be seen as doing more than building generic information literacy and learning about various topics. One possibility is to provide students with opportunities to experience how knowledge is created (not just found ready-made) but to support them in this teachers need to know about the "nature" of different subjects, as signalled, for example, in the Science learning area of *The New Zealand Curriculum*. Again, unless new types of pedagogical content knowledge can be built, existing resources are likely to continue to be used in traditional ways and the potential to transform them in ways aligned to *The New Zealand Curriculum's* key messages could be missed.

This analysis could explain why so many of the resources that *could* support the implementation of *The New Zealand Curriculum* were not seen in that light by the participants in this research. It also positions the ideas in the four theory areas as having the potential to be the "glue" that brings simple resources together to create complex resources of the sort that can trigger effective and sustainable change.

11. Building on the past and present, looking to the future

In this final section of the report we draw together findings across the preceding sections to address the two overarching questions that framed the CIES studies. We also make some observations at the edge of our own learning about how the complex space of curriculum implementation in schools could most productively unfold over the next few years. We see this as an important way to conclude three years of learning about and with school leaders and teachers in this project. We suggest areas of challenge and of generative potential that are worthy of consideration as priorities for attention at all levels of the system.

The two questions we address are:

- **How does the school curriculum respond to the needs of the community and reflect the needs of its students? How is it enacted in the school?**
- **What are the enablers and barriers to curriculum implementation?**

In seeking to answer these questions we have adopted a complexity or systems thinking orientation that acknowledges the interconnectedness of the different layers of the system: students in their classes; teachers learning together; schools reaching out to their communities; and the resources, policies and people working to support the implementation of *The New Zealand Curriculum* in a manner congruent with the aspirations it lays out. This complexity orientation allows us to acknowledge that the “whole is more than the sum of the parts” and that school implementation trajectories are necessarily different, uncertain and dynamic as the people in them learn from and with their various communities. Also congruent with the complexity perspective we have reframed the question on barriers and enablers as being about “enabling constraints” (Davis, Sumara, & Luce-Kapler, 2008). This orientation provides a more empowering way of viewing constraints because it focuses on *possibilities*: well-structured constraints create a space that can orient and enable inquiry and ongoing change.

A complexity perspective takes account of the dynamics of change over time. One classic change theory invokes the sigmoid or s-shaped curve to describe how the change dynamics typically unfold, and also to predict where change might take an organisation or whole system in its next steps. The three-year time period for this research has allowed us to describe the nature of activities at different stages of the s-curve in the early adopter schools (Cowie, Hipkins, Keown, & Boyd, in press). In brief, *The New Zealand Curriculum* initially gave these schools a timely burst of new energy for change that was already underway. We documented intense change activity in the first round of the project. By the second round of the research, ongoing curriculum action was less obvious and dramatic, but we were able to document and describe important “horizontal learning” that consolidated on gains and deepened understanding of the intent of *The New Zealand Curriculum* and its change implications. The early adopter schools are currently poised at a point where their change processes could go either way. They could enter a new rapid growth phase, especially if they are able to access timely input at the “knowing–doing” gap between their internal resources and the challenges they can already see for next steps (Cowie et al., in press). Alternatively, they could lose some of the real gains they have made if potential barriers cannot be transcended. The recommendations in the final section are made in the spirit of supporting a next rapid growth phase for these early adopter schools.

A limitation of our research is that we cannot say to what extent other, later adopter schools are following in the footsteps of the trailblazers. However, we have also tried to be mindful of their needs when shaping this final section, in particular by identifying opportunities to leverage positive examples of change to help them move forward. Assuming

that their change dynamics will follow broadly the same trajectory as in the early adopter schools, we can look across the three years to identify those supports that are most likely to be productive of positive curriculum change in *all* New Zealand schools.

A responsive curriculum is a more transparent curriculum

Looking across the case study schools, and considering what the workshop participants chose to highlight as the successes of their curriculum journeys, it appears that a school curriculum becomes responsive to the needs of its community and students, now and into the future, by maintaining a deliberate and considered focus on *transparency* of intentions and actions for everyone involved. Transparency of intentions and actions enables informed access to opportunities to participate in and contribute to the curriculum in meaningful ways.

The increased transparency at many levels of the education system owes its origins to recent ways of working where the sector has increasingly utilised collaborative “bottom-up” co-constructed processes to sit alongside more “top-down” forms of policy making. The progressive development of *The New Zealand Curriculum* involved co-construction between policy makers and practitioners, and was an important influence on the widespread approval with which the curriculum was initially met (Cowie et al., 2009). Professional learning communities support processes of co-construction between teaching staff; formative assessment involves co-construction between teachers and students; and home–school partnerships can entail co-construction of learning opportunities between students, school staff and parents. We note that this is a “21st century” way of working—creating new spaces to build knowledge between groups of people (Gilbert, 2005).

Elaborating on this idea, we now detail pivotal aspects of transparency and the resources and processes (enabling constraints) that might help propel the early adopter schools into another growth phase. There are also implications for schools that have yet to fully embrace changes that will bring *The New Zealand Curriculum* vision alive for them and their students.

Transparency about the goals and processes of education and learning

Many of the schools in this study have recognised that their curriculum cannot be responsive to community and student needs and interests unless there is a shared view of what they are trying to achieve. For a curriculum to be accepted and valued it needs to be understood. Most schools in this study have expended considerable effort and made good progress towards the goal of building shared understanding and commitment to the new goals for education embedded in *The New Zealand Curriculum*.

Many school leaders have made *strategic use of artefacts to support and enable high-level curriculum conversations*. For example, they have worked with their communities to produce formal mission statements, visual icons and verbal mottos that now serve to promote and provide a touchstone for what is taken-as-shared across the school community. Typically describing aspects of the school’s vision, values and specified teaching and learning practices, artefacts help shape what it *means* to be a student in a particular school. School leaders have also used them to open up conversation spaces that garner support for ongoing change. Examples are: the Cosgrove Tree and “kinds” diagram (see Figure 3 in Section 5); the Hamilton Girls’ High School motto “a wise woman shapes her own destiny”; and the Taihape Area School motto “TAS: leading me to lead my learning”. These artefacts carry the cultural heritage of the school forward as a living point of reference. In this way they support and enable consistency and coherence in ongoing adaptation and change. One potential challenge might be the need to ensure ongoing dialogue and consensus around school goals and their enactment within the school and its wider community. Should the need arise, processes for review and updating of touchstones might prove challenging, given the energy and commitment that have gone into creating them.

In each of the case study schools the implementation of the curriculum in the sense of what the school was trying to achieve, and how it was setting about doing this in the classroom, was depicted as *a process of revisiting and refinement of school vision and practices*—of going back to, and building on from, past lessons and practices. The bonus of *The New Zealand Curriculum* for most of the CIES schools was that there was a high level of synergy and resonance between their established values and vision and those propounded in *The New Zealand Curriculum*. Their energies could thus be devoted to developing practices that enacted and embodied this vision for their students and their community. The pivotal enabler was the sense that the school did not have to get change right all at once, or that there would or even could be any “one right way” to enact change. Added to this, the case studies show that even when there is agreement on the importance of a development, as is the case with the key competencies, the process takes considerable time to bear fruit.

Networking between schools (principals and teachers) offers the potential for other schools to learn from these early adopter schools, as long as they recognise that the process in their schools will necessarily be a translation and adaptation of other schools’ learning that needs to be responsive their particular context. Conversely, a barrier to continued innovation is that schools will come to the limit of their own resources for generating new possibilities and not have access to external ideas. There are policy and practice implications here in relation to establishing and maintaining networks and structures that enable people to forge relationships and allow ideas and resources to circulate within the system.

When schools, teachers and students are working to reconceptualise what it means to be a successful learner and how teaching can support this it is important to acknowledge that *change is a risky business* in which curriculum and pedagogy initiatives will be more or less successful. This aspect of transparency involves acknowledging these risks and valuing a process of iterative adaptation as schools build on and learn from what works and what doesn’t.

Recommendations

Evidence from CIES suggests that curriculum change is likely to be ongoing and recursive, with periods of rapid visible change punctuated by times of consolidation and rethinking of previous decisions and actions. It will be important for MOE to continue supporting the development and maintenance of professional learning networks that provide one mechanism for the sharing of ideas and practices that help schools give effect to *The New Zealand Curriculum*. MOE is also well placed to take an active role in the ongoing disseminating of ideas that deepen and align new insights as these emerge in schools that are leading the way.

Strategic use of distributed and decentralised leadership

Responsive schools are continually changing: sustaining strong and strategic leadership is essential in developing a responsive curriculum. The CIES findings, and those from similar research (see, for example, Degenhardt & Duignan, 2010), suggest that *transformational change requires different forms and types of change management and leadership at different times*. Different types of leadership and different leadership models are needed so that the system can learn from what works when and know when it is necessary to switch approaches and start building capacity in different ways.

Across all rounds of data collection the importance of distributed leadership and decentralised control/responsibility emerged as important in initiating and sustaining change. Leadership responsibility for curriculum implementation was distributed beyond the principal, usually to teams drawn from those with some leadership responsibilities, with the principal retaining their own complementary leadership role. By involving individuals who already had some leadership

responsibility, principals ensured that there was enough similarity⁷ amongst members for them to be able to work together. By bringing together a group of individuals who might not usually work together, principals also created teams that had a diversity of knowledge, background and experience to draw on to innovate within and through the curriculum implementation context that was emerging. This distributed control was important for maintaining coherence across the developments and ensuring that the different groups built on from each other's work. When the distribution network comprised several nodes or hubs of activity and function this added robustness to the implementation process.

Distribution of leadership does not imply that the principal can step back to a less active role in implementation: the most important task for school leaders may be to create meaningful opportunities for teachers across the school to work together on pressing issues of common interest (Louis, Kruse, & Bryk, 1995). In the CIES schools, staff looked to the principal for active commitment and support irrespective of whether or not she/he was involved in the day-to-day change process. It was important to staff and students that the principal was a visible presence around the school and in the classroom, providing active support for and affirmation of the direction in which the school was moving. Often the principal provided the connection or glue across and between different teams and groups of staff and the community.

Recommendation

It is important to nourish and sustain school leaders as strong curriculum leaders who also know how to honour their commitment to others as leaders of selected aspects of change. This sort of strategic leadership was a key feature of the early adopter schools and MOE could consider how to best to support leaders in other schools so that they also develop, implement and maintain a considered and strategic model of distributed and decentralised leadership in their schools.

The school community as a learning community

A responsive curriculum openly values student and community funds of knowledge through a process in which *everyone* is a learner: students; teachers; other adults in the school; and parents and whānau. In this situation, *learning* is a key focus and everyone has high expectations for student learning, including the students themselves. Everyone is able to talk about the learning process and what they are learning and have learned. This orientation helps students make connections to the multiple funds of knowledge they bring to the learning process and could use in curriculum learning with appropriate support. Responsive schools and teachers enlist community resources in the service of students' learning and help students prepare for the complex uncertain societies of the future. This particular type of responsiveness is perhaps the most demanding of all in terms of pedagogical and curriculum change. What will be needed to achieve it cannot be underestimated. It will require confident, connected actively involved schools and teachers. In the words of one school leader, we all need to value "learning life long".

As earlier sections outline, professional inquiry is an important component of ongoing curriculum implementation in the early adopter schools and there is a strengths-based orientation for both students and teachers. Distributed leadership positions all staff as co-learners, including the principal. The aim is to build multiple bridges and networks between staff, between staff and students and between the school and community. In this context, the principal, teachers and students know when to call on the expertise of others to assist in curriculum development. The emphasis on key competencies, in dynamic conjunction with learning to learn, has been an important enabler of conversations that show students that teachers are learners too. Schools, teachers and students are developing a shared language to talk more transparently about what it means to learn and to be an active learner.

⁷ In complexity terms this is called "redundancy" and is essential for healthy systems functioning.

In some early adopter schools there has been a modest expansion of opportunities for students and other adults on the staff to contribute to collective curriculum learning in the school. The early adopter schools have made a lot of progress with involving their students in making learning decisions, and in some cases in shaping curriculum directions. Inquiry learning has been widely adopted as a pedagogical strategy that potentially makes the space needed for greater student input. Inquiry models are continuing to evolve and further progress is likely to require opportunities for teachers to reconceptualise ways they can use their own expertise to most effectively support students' growing autonomy as "lifelong learners". However, as Section 4 outlines, extending professional learning conversations about curriculum to those outside the immediate school has yet to happen to any significant degree, except in the crisis turnaround schools. School leaders and teachers seem unclear about how they might take this next challenging step in a way that allows them to manage and meet their obligations for student learning in the short, medium and long term.

Recommendations

Fullan (2010) sees learning communities and networks that work together on shared problems and issues as an effective means to accomplish capacity building for change. It is important that MOE supports schools in ways that allow them to continue to network with each other, so they can access the benefits of lessons learned and developments made. In this way the system as a whole can continue to develop. New input is likely to be needed in the areas identified as challenging, especially developing new understandings of how parents and communities can contribute to schools in nontraditional ways such as curriculum development.

Given the widespread adoption of inquiry learning as a means of conferring some student ownership of curriculum, there is also a need for further consideration of ways in which inquiry models might diverge and change in response to integration with different learning areas (or more than one learning area) and further realignment with "front-end" aspects of *The New Zealand Curriculum* such as the key competencies, values and future-focused issues. If such debates do not occur, there is a risk that inquiry approaches may become reframed "topic" studies. By contrast and by way of example, a deeper consideration of the intersection between inquiry approaches and future-focused issues such as sustainability has the potential to lead schools to work in *very* different ways: within their community; within the classroom programme; and system-wide across the school.

Transparency about knowledge and evidence of learning

One aspect of transparency relates to teachers and students recognising and using grounds for authoritative knowing within different disciplinary traditions. Such knowledge is necessary for teachers to access and work with students' experiences, ideas and expertise without losing sight of their curriculum goals, both within and across the learning areas. For students to exercise agency they need to understand how knowledge works in the world. A curriculum that attends to this transparency is likely to be intellectually compelling for students and teachers alike. Again, strategies need to be in place to provide ready and sustained access to resources (people, knowledge and curriculum materials) that allow learning about knowledge building to evolve and deepen.

A related aspect of transparency concerns learning processes and evidence of learning that is implicated in the push to develop students as confident and actively involved lifelong learners. This aspiration requires students to develop learning-to-learn and self-assessment skills. Achievement goals must be clear as must the manner in which they are judged and might be further supported. Both students and families need to have access to meaningful and usable data. Schools that are responsive to student and community needs and interests need to generate, use and share accessible and timely data on student learning and achievement. This requires everyone to be assessment literate, as discussed in *Directions for Assessment in New Zealand* (Absolum et al., 2009) and *Ministry of Education Position Paper: Assessment* (Ministry of Education, 2010).

The CIES schools were generating, collating and analysing data from a wide range of sources such as AsTTle, PATs, the Assessment Resource Banks and other school/teacher-designed assessment tasks. Often, schools had a staff member with designated responsibility for data management and analysis. In a shift between the two rounds of the CIES research, schools in CIES 2 were more likely to be pooling and analysing data across syndicates and classes and asking questions about group and individual student achievement in relation to a number of variables including age, year level, teacher, gender, school categorisation as gifted, ethnicity, years at the school and so on. Discussion of data was often public, taking place in staff meetings. The emphasis was on encouraging teachers to interrogate data together in order to surface patterns and trends in student achievement. Such inquiries were seen as a collective responsibility rather than reflecting on individual teacher success. Consideration of viable actions was part of this discussion and these actions could be taken school-wide through the instigation of targeted programmes, or they could involve resourcing and action within individual classrooms or syndicates. These conversations opened up a supportive space that enabled pedagogical experimentation and change.

One potential constraint of the learning community model is that the internal conversations that take place may direct attention inwards, whereas ongoing change demands a more expansive focus. For example, Ka Hikitia challenges schools to address Māori aspirations that Māori succeed *as Māori* and as citizens of the world. School leaders need to keep this bigger picture in mind for all students, with its inherent challenge for exploring what are likely to be very new ideas for many people, even as schools build on local strengths and work to meet local needs. Similarly, as schools move to enact their vision within the classroom in a way that brings together and exploits the potential of the key competencies alongside a revisioning of the learning areas, they may turn their attention inwards to existing solutions. What is likely to be needed, however, is new thinking and new professional learning in areas such as the “nature” of subjects. The limits of what we already know can act to constrain the envisioning of new solutions in times of rapid change.

Recommendations

An important reason to maintain strong networks is to allow school leaders, including leading teachers, to look *outwards* as well as inwards. Insights from beyond the immediate team, group or organisation can provide new impetus for solving problems and finding creative solutions. MOE could consider the extent to which it needs to proactively resource new professional learning inputs to networks and clusters, compared to relying on leaders to collaboratively develop their own solutions. There is a balance to be achieved here and overreliance on either internal or external drivers of change is likely to be unduly constraining.

If teachers are to be held accountable for making constructive use of data in their classroom programmes there needs to be a more visible focus on specific learning challenges and productive strategies for addressing these. The space of possible relationships between the summative and formative use of data could provide a critical focus of attention, development and resourcing, with the intention of supporting increased use of pedagogies that are responsive to students’ learning needs and interests.

Teachers and leaders need concrete examples to “think with” as they explore change possibilities in response to *The New Zealand Curriculum*. At least some of the materials needed here will be learning area-specific and could take the form of exemplars of good practice. Other resources could model blending of contexts, concepts, skills and types of actions from different learning areas whilst still retaining the integrity of the concepts in each area. Still others could support teachers to develop their understanding of the “nature” of their subject(s) and how best to introduce students to discipline-specific insights about how authoritative knowledge is built, communicated and used in the world.

Fullan’s (2010) distinction between *simple* resources (individual-specific resource packs, books, Web programs, student work exemplars, assessment tools, professional development initiatives etc.) and *complex* resources (multiple

possibilities aligned to work together to support a very few powerful goals/changes) implies establishing and maintaining clear professional and student learning aims and sticking to these. For MOE, complex resourcing strategies demand strategic systems alignment of funded resources and effective models of professional learning support as these new resources are released to schools.

Crafting system coherence to leverage implementation

The New Zealand Curriculum sets out a vision for students as confident, connected, lifelong learners and in so doing provides a general direction and imperative for change. One option for schools is that they deliberately seek out and utilise the synergies between the different aspects of *The New Zealand Curriculum* (vision, values, key competencies and principles) so that these aspects evolve as a connected, mutually reinforcing set that contributes to actions and outcomes in which the whole is greater than the sum of the parts. The other option, one which diffuses energy and hence potentially creates barriers, is that schools seek to address each aspect separately.

The key competencies have proved to be an important enabler of ongoing change that is coherent across different aspects of school life. Their exploration has focused attention on school practices both in and out of the classroom. One reason for this impact is that their development has been seen as the responsibility of all teachers no matter which level or learning area they teach. Another enabler has been that their development has required genuine/authentic teacher inquiry—there was and is still no recipe for what they might look and be like in practice. The case study reports generated by this research illustrate the ways they have been customised in different schools, embedded into a wide range of locally-meaningful practices and values.

Another enabler of coherence has been the search for links between different professional development initiatives such as assessment for learning initiatives, Te Kauhua, ICT professional development, restorative practice, Te Kōtahitanga and the vision and intent of curriculum-building practices specified in *The New Zealand Curriculum*. Fullan (2010) points to the moral imperative of raising achievement of all students as the most important driver of such coherence, provided that the targeted means of doing this is kept focused in relation to a few potentially powerful areas of action. Again, we are seeing the fruits of this strategic focus begin to unfold in the early adopter schools.

High-stakes assessments have the potential to be barriers to system coherence if they are perceived to send mixed signals in relation to *The New Zealand Curriculum* framework. For example, leaders in the early adopter schools were not opposed to National Standards per se, but they did think that their implementation had the potential to undermine the flexibility to respond to student and community needs that is accorded to schools by *The New Zealand Curriculum*. At the secondary level there was a similar concern that NCEA may constrain schools' ability to explore and implement *The New Zealand Curriculum*. Leading teachers in our CIES secondary schools did not necessarily share the view that NCEA is a barrier to change, especially those who had given deep thought to the purposes for learning their subjects in the senior secondary school (that is, not just gaining qualifications).

Recommendations

Given the relative invisibility of curriculum resources developed to date (Section 10) further progress may require the development of some different types of resources, including those that support and make explicit the key *theoretical* ideas and moral imperatives that provide hidden dimensions of coherence between initiatives that on the surface may appear to be about different things. Helping teachers to build dynamic conjunctions between seemingly different ideas and issues is one possible way to make the parts of *The New Zealand Curriculum* and assessment systems work together rather than compete. Standards, tasks and exemplars do need to clearly show how what is taught and assessed might evolve in response to those *The New Zealand Curriculum* signals. Then the NCEA standards, for example, could open up spaces that enable a new sense of purpose, even within the inevitable constraint of high-stakes assessments for exit qualifications.

It may be that some sort of audit process (conducted by those with the relevant curriculum expertise) could be developed to keep an eye on progress, and to plan strategies to ensure maximum awareness and uptake of new resources in ways that keep the focus on the intended teacher learning. Such a process would likely entail high levels of interaction and collaboration between curriculum “experts” (for example, researchers) and classroom experts (that is,

teachers) so that any “knowing–doing” gaps can be transcended in ways that work to support transformative change yet are also doable within the constraints of the system.

The moral imperative to lift achievement for all students is an important focus to promote and sustain. However, it will also be necessary to keep a close eye on assessment assumptions and practices: are they complementing or competing with intended curriculum directions?

In summary

The nearly 60 schools in this study were actively working to address the challenge of building a responsive curriculum. Although we thought of them as “early adopters” many were in fact conscripting the curriculum into a learning journey which had begun well prior to its appearance. They understood the necessity of making changes in current schooling practices and that doing so would require a collaborative learning effort, and the taking of some risks. They understood that change would be ongoing, that they would not necessarily get intended changes right first time and that their own new learning would deepen over time. In this dynamic context of change, *The New Zealand Curriculum* provided a compelling focus for involving the school and wider community in ongoing learning.

The findings of the three rounds of data collection indicate that the implementation process is usefully viewed as a *complex* process of growth and change. This journey can start with school engagement of any aspect of *The New Zealand Curriculum*. What is important is that schools persist with their development programme engaging with, responding to and calling on the strengths of all those within their wider community.

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