

The shape of curriculum change

A short discussion of key findings from the Curriculum Implementation Studies (CIES) project

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NEW ZEALAND COUNCIL FOR EDUCATIONAL RESEARCH
TE RŪNANGA O AOTEAROA MŌ TE RANGAHAU I TE MĀTAURANGA



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Table of Contents

Why read this summary?	1
Catalysing and energising curriculum learning journeys in schools	3
NZC as a catalyst for new conversations	3
Enjoying the fruits of the changes	5
The positive rewards of early stages of NZC implementation	5
Productive “horizontal learning”	7
Action in the early adopter schools several years on	7
At the “knowing–doing gap”: Confronting new questions and tensions	9
Moving beyond traditional concerns with coverage	9
Reconceptualising the meaning of key competencies	10
New ways of thinking about knowledge and learning	10
Resources and examples that schools, departments/syndicates and teachers can “think with”	10
Reconceptualising the roles of everyone in the system	11
References	13
Appendix: The CIES 2 research questions	15
Overarching summative question	15
Figure	
Figure 1 Diagram of s-shaped growth curve (adapted from: www.e2consulting.co.uk)	2

Why read this summary?

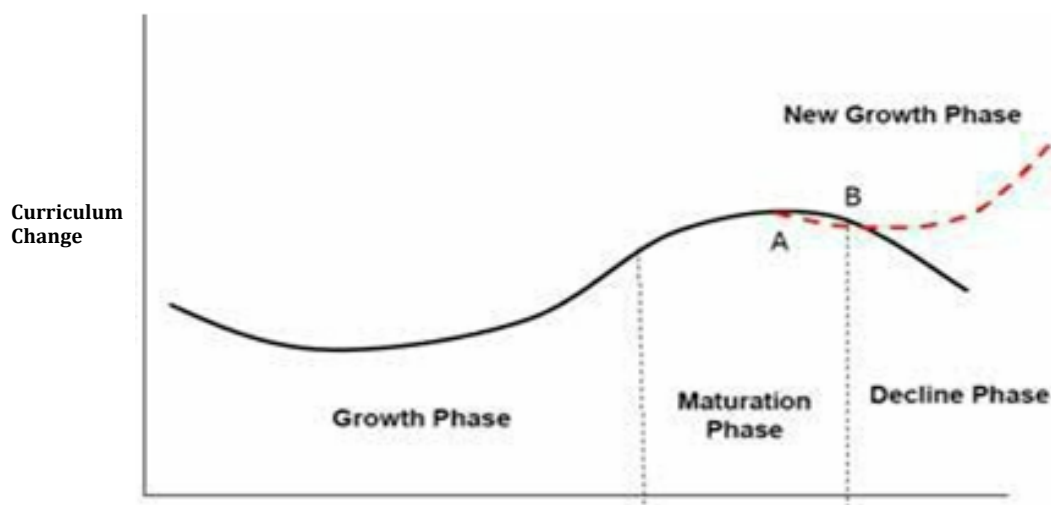
This short report discusses the overall shape of curriculum change as experienced by the schools we tracked over a period of several years as part of the Curriculum Implementation Exploratory Studies (CIES) project. Some interesting change dynamics appear over this longer time frame. We would not have found these dynamics if we had stopped at the end of the first round of CIES, at which point we had visited some “early adopter” schools twice in a period of 18 months or so.

By “early adopter” we mean schools that were known to have begun exploring and giving effect to the New Zealand Curriculum (NZC) as soon as the final (and in many cases the draft) version was available. Many schools did this of course and we could only work with a small number (19 schools in the first round and 10 in the second) because case studies are time and resource intensive. Most schools will now have followed similar change trajectories and you may find it interesting to compare what happened in the very early stages of NZC implementation in the case study schools with your own experiences. Key findings from the first round (Cowie et al., 2009) are reported here: <http://www.educationcounts.govt.nz/publications/curriculum/57760/1>

In the second round of CIES (during 2010) we followed 10 schools and we also added a series of “workshops” that provided a space to hear from many more schools that were working with NZC in interesting ways. We revisited half of the initial early adopter schools and wrote summary cases that spanned a longer period than the three years of the actual study. It was clear to us during the first round that implementing NZC did not just begin overnight when the published document arrived. The schools in the study were already embarked on processes of self-review and change. NZC gave this journey a timely burst of new energy. In the second round, however, ongoing curriculum action was less obvious and dramatic, and we needed to think carefully about why this was the case. Addressing the nine specific research questions for the second round [Appendix] pointed us towards interesting longer-term dynamics of change in schools. In turn, these dynamics suggest some new questions and challenges that need our collective wisdom and effort if we are going to keep up the momentum of curriculum change for a new century.

The analysis reported here draws on a metaphor of growth and change that takes the shape of 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. Michael Fullan refers to its stages here: <http://www.innovationunit.org/about-us/publications/systems-thinkers-in-action.html> We draw on his insights in this short report. In a report the authors tellingly named *Dancing on a Shifting Carpet*, other researchers have recently used the s-shaped curve to describe curriculum change in Australia <https://shop.acer.edu.au/acer-shop/product/A5068BK>

Figure 1 **Diagram of s-shaped growth curve** (adapted from: www.e2consulting.co.uk)



Thinking about the stages of growth during curriculum change we observed that most CIES schools had reached somewhere around point B—where change can be renewed, or some reversals could occur. Framing the curriculum change journey like this caused us to ask: What is needed to ensure that schools’ processes of enacting NZC stay broadly on the track of the dotted red line and enter new growth phases? However, before that question can be addressed, we need to backtrack and consider the types of action that have already occurred in the phases to date.

It seems to us that during the first round of CIES our case study schools were in the growth phase and during the second round they were mostly in the maturation phase. The following sections describe likely triggers, actions and dilemmas of change in these stages. Note that the processes described in what follows do not necessarily take place in a *sequential* manner. Schools can be working on different aspects of curriculum at the same time, and these may be at different stages of change. The process is complex, with the different aspects mutually informing and guiding each other.

Catalysing and energising curriculum learning journeys in schools

Sustainability ... is not linear. It is cyclical, for two fundamental reasons. One has to do with energy, and the other periodic plateaus, where additional time and ingenuity are required for the next adaptive breakthrough. (Fullan, 2004, p. 14)

The growth phase of change is associated with energy and dynamism but notice the “dip” at the start of Figure 1. Change can be triggered by a sense that all is not well and something needs to be done. For example, the first CIES report noted that many of the early adopter schools were already on a change journey prompted by the arrival of a new leader, so there had been considerable groundwork laid before NZC arrived (Cowie et al., 2009). Nevertheless, it is clear looking back that NZC did provide a really positive boost for curriculum change.

NZC as a catalyst for new conversations

The “front end” of NZC has been very favourably received in all the early adopter schools. The ideas in this section were seen to confirm and validate collective professional experience and wisdom about how to best create learning environments that suit particular students and contexts. The curriculum has acted to catalyse and energise curriculum conversations in the growth phase as follows:

- NZC has been a successful catalyst for processes that clarified and expanded schools’ visions and values for learning and learners. One notable area of expansion relates to the idea of *learning to learn* and the nature of relationships between this idea and the key competencies.
- NZC has energised school professionals in ways that affirm and sustain their commitment to learners and learning (both for students and for themselves as learners). One demanding aspect of the roles of school leaders and teachers is helping *all* students to construct positive futures. The “front end” of NZC in general and the principles in particular have given a boost to conversations about how best to *engage* all students in learning, and keep them on appropriate learning pathways.
- School professionals are also highly engaged in collective and individual learning conversations and actions as they put in place continual improvement processes supported by ongoing inquiries into their practice. Here NZC has built on the foundations of earlier professional work around planning and reporting, and various related initiatives such as AtoL (Assess to Learn).

- In conjunction with other policy initiatives such as Ka Hikitia, NZC has supported and given additional impetus to growing awareness of the importance of culture and of the diversity of New Zealand's students, in particular paying greater attention to the needs of Māori students. This aspect of NZC's key messages is aligned with a movement towards strengths-based approaches to education (in contrast to deficit-based thinking) about behaviour and achievement.
- The *coherence* of the front end parts of NZC has allowed schools to successfully begin these conversations at the place that is most compelling and pragmatic for them. Because they could start anywhere, all the early adopter schools were able to maintain and build on their own previous gains. This greatly helped to invigorate a new round of professional growth.

The time needed for this initial phase of encounter and investigation should not be underestimated. Before NZC arrived, the early adopter schools had already invested substantive time and energy to whole-school change, yet still needed at least several years of ongoing conversations for their early NZC encounters. This was not a linear process and the key school leaders were systems thinkers. Some set up groups of staff who concurrently explored different aspects of school practice whilst also considering the alignment between these aspects. These school leaders also understood that a number of cycles of development would be needed to explore each area of NZC and that each cycle would inevitably act to change and build on prior ideas. They were also clear that this process would never be “finished” and there was no “endpoint”.

Enjoying the fruits of the changes

When it comes to moral purpose concerning short and long term goals, only a win-win relationship will do—one that gets short-term results, while simultaneously paving the way for long-term development. (Fullan, 2004, p. 13)

Short-term results are the fruits of change that schools experience in the rapid upswing when a growth phase is nearing its end. As Fullan suggests here, these positive outcomes of change serve a motivating and sustaining role for school leaders and teachers. We think it is important to document and celebrate them and so we summarise them very briefly below.

Notice also the challenge implied in Fullan’s comment. Leaders in all the early adopter schools had a keen sense of moral purpose related to helping students construct positive futures in a time of rapid social change. They appreciated that NZC was a curriculum for the 21st century and that it gave them explicit permission and flexibility to construct a local curriculum to best meet the needs of the students in their school community (Cowie et al., 2009). They also appreciated the implications of this rapid social change for their own professional work. All the early adopter schools worked hard to build a strong collegial learning culture that could support ongoing adaptive change.

We cannot afford to rest on our laurels because this first stage has gone so well. The following sections pay careful attention to the gains and challenges of the maturation phase and then finally we will address the challenge implied by the red dotted line in Figure 1.

The positive rewards of early stages of NZC implementation

Positive developments in the early adopter schools might include any mix of the following:

- **“De-cluttering” by increasing the coherence and alignment between curriculum, teaching and assessment practices:** Many schools were on a journey to achieve greater alignment between different aspects of practice. NZC assisted decision making in this area and offered a reference point against which existing or new directions could be checked. Like the school visioning processes outlined next, this process created a stronger sense of shared purpose amongst staff.
- **Development of a shared language and vision for learners and learning:** Schools have developed their own language for talking about their vision and values. Often the language and metaphors for this learning have reached back to draw on past experience and learning to bring this into dialogue with NZC and current concerns. In many cases an artefact or image serves as a touchstone and constant reminder for this shared understanding.

- **Increased student engagement and involvement in their own learning:** Some schools have needed to begin with a focus on increasing attendance and presence in school and have done this most successfully when they have got the wider school community in behind in support. Across all the early adopter schools we have found a trend to make more space for students to be actively involved in making learning decisions: personal goal setting is common; a new focus on learning-to-learn is often linked to key competencies; existing student-led inquiry approaches have been adapted from earlier professional learning and continue to evolve.
- **A re-energised sense of purpose among the staff:** We found a strengthened sense of the power and possibilities of learning together, across school teams as well as within them. Schools have tended to examine the implications of giving effect to NZC as a whole staff, often involving all the adults in the school.
- **A strengthened sense of collective responsibility for student achievement:** The collation and analysis of data from across the school, particularly in the case of primary schools, has served as a focal point for whole-school discussion about patterns, trends and possibilities for increasing achievement of *all* students in the school, with a specific subfocus on the learning of Māori students. NZC has also assisted schools to think of achievement in a wider sense as a focus on the key competencies encouraged teachers to consider outcomes related to social, emotional, cognitive *and* meta-cognitive development.
- **Some success with new approaches that demonstrate the benefits to be gained from involving parents in conversations about their child’s learning:** Schools have used a range of approaches to engage the community in curricula and extracurricular activities and conversations about learning. Schools are well aware that their communities need to share and support their vision for students and their learning if this is to translate into productive action.

In one of his latest books, Michael Fullan emphasises several of these “fruits” as key to system-wide change that can stick and really make a difference for students (Fullan, 2010). Nothing succeeds like success, especially when it emerges from changes driven by a shared sense of moral purpose and of the power of working collaboratively to build both individual and collective capacity in the school (and in the wider education system—see final section of this summary).

NZC has messages about flexibility and responsiveness to the local context and so opens up a space for ongoing exploration where local solutions are to be expected and affirmed. This requires openness to a variety of possible solutions and we certainly saw the above fruits of change play out in a wide variety of ways. However, consolidation on these early gains requires a different sort of energy and focus and we turn now to what change could look like in this seemingly flatter stage.

Productive “horizontal learning”

Vertical learning experiences are cases where a learner makes lots of incremental progress on a scale from low to high skills, as if moving up a ladder. ‘Horizontal’ learning experiences are those where one does not make a lot of progress up the ladder of skills, but stays on the initial rungs awhile, exploring them and getting to know what some of the rungs are and what the ladder looks like. Horizontal experiences look like mucking around, but really they are ways of getting your feet wet, getting used to the water, and getting ready, eventually, to jump in and go swimming. (Gee, 2004, p. 60)

In the quote at the start of Section 2, Michael Fullan refers to the “periodic plateaus” that are to be expected following the high energy stage of “adaptive breakthroughs”. In various ways, the early adopter schools were on such plateaus during the second round of CIES. Had we stopped at the end of the first round the snapshot of NZC implementation would have, misleadingly, focused mainly on the invigorating growth phase. Because the study carried on, we are now able to describe the successes and challenges that characterise the consolidation stage. Literacy expert James Gee’s quote above points out that what might look like “mucking around” (because further progress is not so readily apparent) is potentially an important time for a different sort of new learning.

Action in the early adopter schools several years on

The ongoing journeys of the early adopter schools suggest that the commitment and energy expended in the early implementation phase are likely to plateau after several years. When this happens progress become less visible but important professional learning does continue. “Horizontal” learning and actions typically involve consolidating, filling in gaps, reworking areas where new horizons have opened up and the school now considers they have not yet explored the full potential of this aspect of NZC, and looking back to align new practices with changes made during earlier explorations of NZC (e.g., ensuring that approaches to the key competencies, vision and school versions of essence statements remain coherent). At this stage it is also important to ensure that everyone is up to speed with changes to date.

This horizontal reworking entails interactive to and fro between whole-school, team and individual learning. Professional learning needs to be sustained at all three levels and to remain connected across them. This means that leaders need to be very strategic and wise and may need to step back themselves as others take up strategic leadership roles. It also requires schools to have processes in place that enable the work of different teams to be shared more widely.

Some teams make more progress than others in the consolidation phase. Schools need strategies to share the learning of the innovators to support those who are unclear about how to give effect

to NZC's new ideas and imperatives. There is an opportunity here for the champions of change to step up and take a "vision-to-practice" leadership role. We saw a variety of ways in which this happened.

Lateral capacity building when schools are on the "horizontal plateau" requires a different sort of leadership. Leaders of professional learning at this stage need people skills to be connectors and integrators. They need to be able to work across teams and to be patient, persistent negotiators.

The principal's leadership remains important at this stage. As the "lead learner" they play a key role in continuing to articulate and support enactment of the collective school vision. They must also build and sustain the leadership of others. Key behaviours of principals include being physically present in the school, creating networks of conversation among staff, making resources available to support individual and collective teacher learning and building connections with the school community.

Systems theory tells us that when a leadership network comprises several nodes or hubs of activity and function, this adds robustness to the implementation process. The leaders of the CIES schools were systems thinkers. They tended to set up professional learning teams drawn from those with some leadership responsibilities (senior management, heads of the syndicates/departments/faculties, teachers with responsibility for classroom teaching and those with expertise in curriculum areas) to ensure that there was enough similarity amongst members for them to be able to work together, while at the same time, by bringing together a group of individuals who might not usually work together, creating teams with a diversity of knowledge with which to innovate.

At the “knowing–doing gap”: Confronting new questions and tensions

To move beyond plateaus requires what Heifetz and Linsky call tackling ‘adaptive challenges’ rather than ‘technical solutions’. The difference between the two is that knowledge required for addressing technical problems is currently available (it may still be difficult to implement, but much is known in relation to the problem) while adaptive challenges go beyond our current capacity or current way of operating. (Fullan, 2004, p. 4)

Many of the early adopter schools now appear to be in the stage where they could be getting ready for the next burst of change and innovation. When they were at the start of the rapid upswing in the first round of NZC implementation there was a lot of talk of strategic risk taking followed by rapid change (Cowie et al., 2009). If they follow a similar trajectory into the next change cycle, the early adopter schools could now be seen as positioned on the cusp of further rapid change (somewhere between points A and B in Figure 1). However, as the diagram shows, they might, instead begin to fall back into some old ways. Since a next burst of change could potentially transform the ways we think about and implement a local curriculum in our schools, it is important to consider carefully what could help keep change on the track of the red dotted line.

Our analysis suggests several areas where schools might reach the limits of their internal resources to address challenges that emerge during this stage of important horizontal learning. Solutions to new problems might require more than internal experimentation. When this happens outside input could help schools move forward. Adaptive challenges that the research suggests the early adopter schools are now facing are described in this section.

Moving beyond traditional concerns with coverage

NZC gives schools the freedom to design a local curriculum but the sense that content must be “covered” has not gone away: in senior secondary schools, NZC and NCEA requirements must be reconciled; in primary schools the literacy and numeracy emphasis of the National Standards must be reconciled with other valued learning. To address this relationship challenge between curriculum “coverage” and high-stakes assessment we need a new way of conceptualising the relationship between breadth and depth. This relationship can *no longer* be seen as “zero-sum game” (Davis & Sumara, 2010) where more of one means less of the other. Emerging debates in the literature about the “transfer” of learning suggest that deep knowledge is widely networked to ideas, contexts *and* action possibilities. 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 will support increased success in high-stakes assessments.

Reconceptualising the meaning of key competencies

Key competencies need to be seen as encompassing more than skills, attitudes and learning to learn (although it is really good that these aspects have been so well developed). Specifically, they need to be embedded into each learning area in ways that change the learning that already happens there. For this to happen, clarification is needed about the unique role that each learning area plays in the overall curriculum, and then the way that integration of the key competencies into each learning area works to create a dynamic synthesis of knowledge, skills, attitudes and values that support participatory learning. A generic understanding of the key competencies has been well developed—now is the time to deepen this with learning area-specific examples and debates. We also need robust examples that work to blend core areas such as literacy and numeracy with other learning areas, without compromising the integrity of either component.

New ways of thinking about knowledge and learning

The rewards of NZC implementation have included sustaining engagement, making progress in competency development and maintaining responsiveness in the local curriculum. However, the new questions and challenges outlined in this section mean we also need to think in new ways about what can constitute evidence of learning. In turn this means rethinking assessment processes. We found emergent tensions between National Standards and NZC and ongoing tensions between NCEA and NZC. Ongoing and innovative alignment work is needed if the benefits of NZC are to be cumulatively realised right through the school years.

Resources and examples that schools, departments/ syndicates and teachers can “think with”

Innovative resources are currently hard for schools and leaders to find as they seek to reconceptualise their work. They need some that are learning area-specific, and others that blend the contexts, concepts, skills and types of actions from different learning areas whilst still retaining the integrity of the concepts in each area.

New processes to build capacity could include networks and clusters that bring together people with diverse knowledge and expertise to leverage peer learning and knowledge building and to create innovative resources that can be shared more widely as tools that teachers can “think with” as they implement subject-related changes.

Fullan (2010) differentiates between *simple* resources (individual-specific resource packs, books, Web programmes, student work exemplars, assessment tools, professional development initiatives

etc.) and what he calls *complex* resources where these multiple possibilities are aligned in ways that ensure they work together in support of a very few powerful goals/changes. For schools, this implies establishing and maintaining a clear focus and sticking to it. For the Ministry of Education, this implies strategic systems alignment of resource production that it funds, with effective professional learning support as these new resources are released to schools.

Reconceptualising the roles of everyone in the system

Fullan (2004) suggests we need to work together across the *whole system* as a “we-we” collective to “produce quality ideas and practices on an ongoing basis, and to inspire collective effort to the extent that it becomes possible to achieve breakthroughs never before experienced” (p. 6). This is not a task individual schools are likely to be able to do on their own. In a “we-we collective” students, teachers, school leaders and parents and the community all need opportunities to reconceptualise the active roles they could play in student learning and assessment.

Fullan (2004) also argues that, “a new kind of leadership is necessary to break through the status quo. These new theoreticians are leaders who work intensely in their own schools, or national agencies, and at the same time connect with and participate in the bigger picture” (p. 7). The guiding principle of system leadership is that people should work for the success and welfare of students in other schools, as well as their own (Hopkins & Higham, 2007, p. 149).

On the whole, the New Zealand education sector has considerable experience in working in ways that typify this aspect of a “we-we collective”. In both stages of the CIES research we found that the leaders in most of the CIES schools were working to further build their already strong networks with their colleagues, education sector leaders and professional learning providers. Thus they were looking beyond their own school for ideas and inspiration, but also to provide support to colleagues who were working through the process of change. Continuing to support the school leaders who step up to take these important visionary roles will be important if innovative solutions are to be found to the next stage of curriculum innovation and change.

Distributed leadership was well established in the CIES schools and was seen to have value for empowering a wider group of teachers to act and think more strategically in relation to curriculum implementation, pedagogical change or some other shared interest or concern. Decentring leadership like this results in the formation of nodes of expertise and innovation where learning can be shared more widely and cross-fertilisation of ideas and experiences can lead to even more lateral innovation. Fullan (2004) suggests that *all* teachers (and some of our schools would argue all adults in their school and, if possible, their community) should to be empowered to lead learning in their own classrooms and collaboratively. Recognising this, as they entered the consolidation phase, many CIES schools were strengthening the structures they had earlier put in place to encourage all teachers to engage in teacher-as-inquirer processes.

One aspect of a “we-we collective” that is not yet clear is the role that parents and the community could play in shaping and supporting the school and classroom curriculum. Schools have made

great progress in involving parents in their child's learning but what this wider responsibility might eventually encompass remains a gray area.

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". 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 NZC 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.

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Appendix: The CIES 2 research questions

1. How are the NZC principles being used by schools to give effect to NZC and what are the actual school and classroom practices that demonstrate this?
2. How are schools engaging with their communities to inform their local curriculum and what are the processes, barriers and enablers to this?
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?
4. How are the key competencies being explicitly planned for and developed in and across learning areas?
5. How are the National Standards for Years 1–8 helping schools attend to literacy and numeracy demands across the curriculum?
6. How are schools ensuring sufficient support and attention to the depth and breadth of learning area content knowledge?
7. How is the teaching as inquiry process helping teachers practise evidence-based teaching, particularly in secondary schools?
8. What are the enablers and barriers to sustaining curriculum implementation as a process within and across schools?
9. How are secondary schools using NZC and targeted secondary resources to improve student achievement, particularly in the senior secondary school?

Overarching summative 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?