

KA HIKITIA A Demonstration Report

Effectiveness of Te Kotahitanga Phase 5 2010-2012

Ka hikitia means to step up, to lift up or to lengthen one's stride. It means stepping up how the education system performs to ensure Māori students are enjoying and achieving education success as Māori.

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2010-2012

*Nōreira, atawhaitia ngā rito, kia puāwai ngā tamariki.
Ako i ngā tamariki, kia tu tāngata ai, tātou katoa.¹*

*Therefore, cherish and nurture the shoots, so the children will bloom.
Learn from and with these children, so that we all can stand tall.*

This report has been made possible by the analyses carried out by Shane Martin of the Iterative Best Evidence Synthesis Programme | Hei Kete Raukura.

Thank you to all who have assisted with this report. Special thanks to Professor John Hattie of the University of Melbourne who provided formative quality assurance.



May 29, 2014

To Whom It May Concern:

I am writing in regards to the excellent report, *Effectiveness of Te Kotahitanga Phase 5, 2010-12*, which I hope is widely circulated and read. This report provides sound evidence that can guide policy decisions relative to the national effort to raise Māori student academic achievement, as expressed in *Ka Hikitia*, which aims toward “Māori students enjoying and achieving education success as Maori.”

Notably, *Effectiveness of Te Kotahitanga Phase 5, 2010-12* finds that: “the achievement of Māori students (as measured by NCEA levels 1–3) in Phase 5 schools improved at around three times the rate of Māori in the comparison schools,” “the proportion of Māori students coming back into year 13 increased markedly in Phase 5 schools,” and “by 2012 the number of year 13 students achieving NCEA level 3 in Phase 5 schools was nearly three times what it had been four years earlier.” These results are clearly in line with the goals of *Ka Hikitia*.

I was a member of the team that conducted the external evaluation of Te Kotahitanga, Phases 3 and 4. Our data were very clear about the following: the program was producing a marked shift in classroom pedagogy; teachers were overwhelmingly enthusiastic about the value of the program’s professional development; Māori students overwhelmingly felt good in classrooms of Te Kotahitanga trained teachers; Te Kotahitanga schools were retaining Māori students at a much higher level than were comparison schools; academic results in Phase 3 were starting to appear; and teachers as well as principals saw these changes as a direct result of the Te Kotahitanga program.

The report *Effectiveness of Te Kotahitanga Phase 5, 2010-12* shows that the academic impact we could begin to see in Phase 3 schools became much stronger as the program moved into Phase 5. The analysis in *Effectiveness of Te Kotahitanga Phase 5, 2010-12* also finds, as we did, Māori student satisfaction with school, and particularly with being Māori in school. All of this is precisely what *Ka Hikitia* aims to bring about.

Te Kotahitanga was a gem of a program from an international perspective, not only for its sound theoretical basis, its well-conceptualized model of teacher professional development, and its positive impact on Māori student outcomes, but also for its consistently wise use of research. Earlier this year, I published an article in the U.S. journal *Educational Researcher* reporting an analysis I did of the nature of research on teacher education and teacher professional development in the four leading teacher education journals internationally, in 2012. Out of 196 articles, only 11 reported the impact of a program on student outcomes, and only 2 used large-scale mixed methods. Bishop, Berryman, Wearmouth, Peter, and Clapham (published in *Teaching and Teacher Education*) was the only one of the 196 articles to do both. The significance of this is that Te Kotahitanga has been one of the very few teacher professional development programs worldwide to gather varied kinds of data that link program processes with student outcomes, and that use methodologies that enable findings to be generalized. In addition, the program has used its data to learn and improve with each phase, which is why the analysis of Phase 5 is so important. Phase 5 is not simply a replica of Phases 3 and 4, but represents the result of several specific improvements in the program based on data from the earlier phases.

Thus, as New Zealand moves forward with *Ka Hikitia*, I would hope that data, particularly data on student outcomes, will drive policies, and that the data reported in *Effectiveness of Te Kotahitanga Phase 5, 2010-12* will be considered carefully.

Sincerely,



Christine Sleeter
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Educational reformer and Professor Emerita Christine Sleeter has served as Vice President of Division K (Teaching and Teacher Education) of the American Educational Research Association and as President of the National Association for Multicultural Education. Her work has focused primarily on multicultural education, preparation of teachers for culturally diverse schools, and anti-racism. She has been honoured with the American Educational Research Association Social Justice Award, the Division K Teaching and Teacher Education Legacy Award, the CSU Monterey Bay President's Medal, the Chapman University Paulo Freire Education Project Social Justice Award, and the American Educational Research Association Special Interest Group Multicultural and Multiethnic Education Lifetime Achievement Award.

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Executive summary

Ka Hikitia—Accelerating Success 2013–2017 is the Government’s strategy “to rapidly change how education performs so that all Māori students gain the skills, qualifications and knowledge they need to succeed and to be proud in knowing who they are as Māori.”² The Auditor-General has called for more attention to be paid to effective implementation of this strategy and is reviewing progress annually for four years.ⁱ

Concern for the future of te reo Māori and dissatisfaction with how the system was performing for Māori culminated in Māori setting up kura kaupapa Māori in the 80s and 90s. Despite the difficulties, these new schools, created by Māori for Māori, succeeded in establishing educational environments where to be Māori was the norm and where Māori cultural values and practices were visible, valid and legitimate, particularly te reo and tikanga. NCEA results provide evidence that such environments are conducive to Māori educational success. By 2012 the percentage of Māori exiting kura with level 2 or better was virtually the same as for “all students” and almost 19% higher than for Māori nationally.

This is good news, but not for the great majority of Māori students who are learning – and all too often not succeeding – in English-medium environments. This is the challenge that Te Kotahitanga took on: how to reshape “mainstream” environments so that they are conducive to Māori educational success.

Progressively implemented in 54 secondary schools, Te Kotahitanga was a cross-curricular intervention designed by indigenous leaders Professor Russell Bishop and Associate Professor Mere Berryman to raise the achievement of Māori students in “mainstream” New Zealand secondary schools.

Beginning in 2001, this intervention was developed from the ground up and refined iteratively through five phases by means of a rigorous research and development (R & D) process. The fifth phase involving 16 schools and 9.4%ⁱⁱ of Māori secondary and composite school enrolments began in 2010 and concluded in 2013. By this stage a considerable body of evidence was confirming just how effective the intervention had become.

The report focuses on Phase 5, which was informed by the earlier phases and by new knowledge about leadership, school–whānau connections, implementation, scaling up, autonomy, accountability, momentum, and sustainability. The analysis contained in the report relates to the first three years – the years for which data were available at the time of writing.

Data for 2010–12 reveal that:

- the achievement of Māori students (as measured by NCEA levels 1–3) in Phase 5 schools improved at around three times the rate of Māori in the comparison schools
- while the achievement of the comparison group deteriorated following the realignment of NCEA achievement standards, the achievement of Māori students in Phase 5 schools improved
- by 2012 the achievement of year 12 Māori in the Phase 5 schools (mean decile = 3) was on a par with the achievement of year 12 Māori compared across all deciles
- the proportion of Māori students returning/enrolling in year 13 (in 2012, equivalent to two-thirds of the 2011 year 12 cohort) increased markedly in Phase 5 schoolsⁱⁱⁱ
- by 2012 the number of year 13 students achieving NCEA level 3 in Phase 5 schools was nearly three times what it had been four years earlier
- the proportion of Māori students from Phase 5 schools who were at least 17 at the point of leaving increased at twice the rate for Māori nationally

ⁱ See page 71.

ⁱⁱ 2010–12 data.

ⁱⁱⁱ Not all year 13 students were retentions; some were transfers.

- a very high proportion of year 9 and 10 Māori in Phase 5 schools (87%) reported that it felt good to be Māori in their school (“always” or “mostly”), and over 60% reported that their teachers (“always” or “mostly”) knew how to help them learn.

The following table summarises the impact of Phase 5 on NCEA achievement.

	Achievement as %		Difference as %
	2009	2012	
NCEA level 1			
Te Kotahitanga Phase 5	41.6	52.4	10.8
Comparison group	42.1	46.1	4.0
NCEA level 2			
Te Kotahitanga Phase 5	44.9	59.6	14.7
Comparison group	44.1	48.9	4.8
NCEA level 3			
Te Kotahitanga Phase 5	32.3	42.3	10.0
Comparison group	30.0	33.4	3.4
University Entrance			
Te Kotahitanga Phase 5	22.9	26.0	3.1
Comparison group	21.2	23.9	2.7

Impacts of this magnitude are rare in large-scale education reforms, so Section 4 explores the interwoven elements that made the intervention so effective. Most of these come back to the understanding that teaching and learning is a culturally situated activity so it is only through deep-seated cultural and pedagogical change that a teacher, leader, institution or system can enable substantive change for Māori.

Following an overview of the various elements of Te Kotahitanga, including the underlying theory, the Effective Teaching Profile (ETP) and the professional development and ongoing system improvement models, Section 4 goes on to examine them from a Best Evidence Synthesis (BES) Programme perspective, and to explain seven factors that were critical to the success of the intervention:

- Indigenous educational expertise driving culturally responsive provision for Māori
- Whakawhanaungatanga driving the “how” of improvement
- Effective teaching: developing culturally responsive pedagogy
- Effective professional development: building school-based expertise
- Transformative educational leadership: institutionalising deep change
- Educationally powerful connections based on a cultural pedagogy of relations
- Collaborative R & D cycles driving accelerated improvement to scale.

These seven factors align with the BES findings about system improvement and capability building in which leadership, relationships, pedagogy, and professional development, focus resolutely on Māori succeeding as Māori and valued outcomes for diverse (all) learners.

High-impact R & D is discussed in some detail because R & D was so crucial to the development of Te Kotahitanga through its five phases and to system improvement internationally. When focused on valued student outcomes, educational R & D enables disciplined innovation, ensures that time, energy and goodwill are not wasted on reinventing the wheel, and provides the best guarantee that value for money is obtained from educational investment (the report highlights the potential for systematic evaluation of education interventions in terms of their impact on valued student outcomes).

Most importantly, R & D is a means of ensuring that what is working is spread and that what is not is confronted and changed.

The report identifies the significance of Te Kotahitanga Phase 5 and the expertise that underpinned it for accelerating educational improvement for Māori and sustaining momentum. We now have new knowledge and expertise about effective implementation - *what* needs to be done and, perhaps even more importantly, *how* to do it to advance the vision of Ka Hikitia as a reality.

“Now is the time to act and accelerate success”

Ka Hikitia – Accelerating Success for Māori 2013-2017

1.0 Introduction

The Government has set as a target that by year-end 2017, 85% of 18-year-olds will have achieved NCEA level 2 or its equivalent. The 2012 statistic for all school leavers was 74.3%, and for all 18-year-olds, 77.2%. For all Māori school leavers the statistic was 54.9%, and for Māori 18-year-olds, 60.9%.³

Progress on this ambitious NCEA level 2 goal requires accelerated improvement across the board, but particularly for Māori learners. Māori achievement levels need to increase at a faster rate to meet the vision set out in *Ka Hikitia* of Māori enjoying and achieving success as Māori, and to progress the Government's targets for Better Public Services [CAB Min (12) 16/9].

The extent of the challenge has been further underscored by recent data from international assessments that show a decline in Māori achievement at both primary and secondary levels. Programme for International Student Assessment (PISA 2012) data⁴ reveal a decline in the mathematics, reading and science achievement of 15-year-olds, which, though national, is also significant for Māori in mathematics and science. Policy aspirations require far more effective action. To reach our targets we will need to use all available evidence about “what works” in terms of accelerating educational improvement.

Beneficial claims have been made for all manner of educational strategies, products, programmes and policies, but when judged by their impact on valued outcomes for students, there is often little evidence that would validate the promises. Indeed, history provides examples of well-intended policy, investment, research and intervention that have actually had adverse outcomes for Māori.

In this context, the findings of the Ministry of Education's Iterative Best Evidence Synthesis | Hei Kete Raukura Programme are a crucial resource. This programme draws on trustworthy evidence from New Zealand and overseas to explain what does and does not work in education. Its touchstone is valued outcomes for students, and its unwavering focus is on what makes a bigger difference for diverse (all) learners [Cab Min (05) 13/7 (19) refers]⁵. BES guidelines require priority to be given to the Treaty of Waitangi.

The writers of five best evidence syntheses (BESs)⁶ found compelling early evidence for the positive impact of Te Kotahitanga on the learning and lives of Māori students. Findings for the first three years of the final phase (Phase 5) of this programme show even higher gains and less variability. This report highlights new data that further demonstrates the effectiveness of this research and professional development programme in accelerating success for Māori.

Funded largely by the Ministry, Te Kotahitanga was first introduced in 2001.

The aim of the project was to improve the educational achievement of Māori students in mainstream classrooms, initially listening to the voices of the students themselves ... we sought to promote the mana rangatiratanga (self-determination and agency) of all the participants involved in the education of Māori students ... (to) lead to improved policy, teaching and learning practices.

Bishop & Berryman, 2006⁷

In 2005, then Secretary for Education Howard Fancy described the origins of Te Kotahitanga in this way:

This project interviewed some Maori students, their teachers, principals and families about what they saw as major reasons for their success or failure.

At its simplest, the research showed that 80% of the students identified their relationship with their teacher as the critical influence. By contrast 60% of teachers identified the students' home and family background as the major influence. Confronted with this evidence and supported with professional development the teachers recognised that to make a difference they would need to change their beliefs and practices rather than expect family circumstances to adjust.

When they did the results were marked in terms of improved engagement and increased academic achievement. Teachers found that when they valued the diversity of students and used it as a strength in the classroom their pedagogy became much more inclusive.

While a small project, the results were significant. This project has attracted nationwide interest and a demand for the professional development that was within the initial pilot schools to continue.⁸

Led by Professor Russell Bishop and Associate Professor Mere Berryman, Te Kotahitanga was developed iteratively through five phases (see Table 1 below) using an R & D model to strengthen effectiveness. At first, the focus was on Māori in years 9 and 10. Over time, this focus was enlarged to include the whole school.⁹ By 2012, 27.1% of Māori in secondary or composite schools (excluding kura kaupapa Māori) were in schools that were or had been part of a Te Kotahitanga intervention.¹⁰

Table 1. Te Kotahitanga research and professional development programme

Phases, timeline and numbers of schools						
Phase 1	Phase 2	Phase 3		Phase 4		Phase 5
		Intervention	Reduced funding support for sustainability	MOE funded Intervention	Evaluation of predominantly school funded sustainability	Intervention – early embedding of sustainability
2001	2002	2004–05	2006–10	2007–09	2010–12	2010–13
3 secondary schools (interviews gathered in 5 schools)	2 secondary schools and 1 intermediate	12 secondary schools Year 9 and 10 focus		21 secondary schools initially	19 secondary schools (2 pulled out, seeking new funding source)	16 secondary schools (17 started but one that had earlier been in Phase 2 pulled out) 2013 reactivation and revitalisation opportunities for Phase 3 and 4 schools
Ongoing opportunities for involvement through, for example, national hui and the Te Kotahitanga community website						

1.1 Rationale for this report

... the Ministry's introduction of Ka Hikitia has not been as effective as it could have been. There were hopes that Ka Hikitia would lead to the sort of transformational change that education experts, and particularly Māori education experts, have been awaiting for decades. Although there has been progress, this transformation has not yet happened.

Auditor-General, 2013¹¹

Since 2008, successive governments have given priority to progressing system performance for Māori. The most recent iteration, *Ka Hikitia – Accelerating Success 2013–2017*¹², is a strategy that seeks to rapidly change how the education system performs so that Māori students gain the skills, qualifications and knowledge they need to enjoy and achieve education success as Māori. “Ka hikitia”, which means to step up or lift up, demands an accelerated improvement trajectory. Because insufficient progress had been made on the goals of Ka Hikitia nationally, the Auditor-General called

in 2013 for more attention to be paid to issues of implementation and promised to review progress on this policy over each of the next four years.

This report was originally initiated because no external evaluation of Phase 5 had been funded. The concern was that lessons learned cumulatively over successive cycles of R & D might therefore not be sufficiently accessible to policy makers looking to make sound, evidence-based policy decisions. It is our hope that, by giving the reader a better understanding of the evidence and knowledge generated by this project, we can further the Ministry's leadership aspiration:

We are respectful, we listen, we learn.

He rōpū manaaki, he rōpū whakarongo, he rōpū ako mātou.

To meet the Government's goals, the Ministry plans to make highly effective professional development more widely available to secondary schools. An earlier version of this report was prepared to inform these plans. And, when in 2013 it was learned that Te Kotahitanga was one of 14 finalists from over 400 nominees for six global WISE (World Innovation Summit in Education) awards¹³, this earlier version was made available to the judges. Following site visits to two Te Kotahitanga Phase 5 schools (Flaxmere College and William Colenso College), the judges selected Te Kotahitanga as winner of one of its six awards.¹⁴

This report also aims to inform value-for-investment decision making that will genuinely accelerate improvement for Māori in "mainstream" schooling. It is our hope that it will provide a foundation for the development of a trustworthy approach to comparing the impacts of different interventions on student outcomes using the Ministry's new NCEA databases.

In late 2013 the OECD released its latest Progress in International Student Achievement (PISA) report¹⁵. According to this report, New Zealand is one of only four countries in mathematics and three in science where the data paint a picture of accelerating decline. It is crucial that policy makers utilise evidence (such as that generated by Te Kotahitanga) about what can accelerate large-scale improvement to reverse these disquieting trends. Such evidence is a rare resource for policy, but that is no guarantee of uptake.¹⁶ One international expert in scaling reforms says that evidence of effectiveness can actually be a liability because speculative alternatives always have greater initial appeal.¹⁷

The New Zealand Prime Minister's Chief Science Advisor has repeatedly called for better use of evidence in policy formation and evaluation.¹⁸ This report aims to support this purpose.

We originally intended to provide effect sizes in this report as a means of comparing the impacts of a wide range of measures and interventions. In the BES Programme effect sizes provide a fundamental tool for determining value-for-investment advice. But at the time of writing there was debate as to which methodology should be used to determine effect sizes, so with one notable exception (an effect size calculated for school leavers by Professor John Hattie, page 27), the report expresses most comparisons as percentages. Given the size of the differences, percentage comparisons clearly demonstrate the effectiveness of the intervention.

A draft version of this report was prepared in 2014 and made available to those who asked for it, but it was not officially released or published. The intention was always that this would be an interim version, to be updated when 2013 data became available mid-2014. Unfortunately the opportunity to do such an update has now passed. We believe however that the interim version is of value and should be in the public arena, where it can potentially inform thinking, planning, and policy, and influence what happens in "mainstream" schools (kura auraki) and classrooms. Te Kotahitanga may have formally come to an end, but no future policy designed to bring about equitable educational outcomes for Māori should ignore the evidence base it has created.

This report builds on and updates the findings about Te Kotahitanga presented in the *Teacher Professional Learning and Development Best Evidence Synthesis (BES)*¹⁹.

1.2 The challenge

At the first Hui Taumata²⁰ in 2001 Sir Mason Durie identified a long-standing pattern of underserving of Māori in education. He called for urgency in realising the Treaty of Waitangi in education so that Māori were enabled to succeed as Māori in education, enjoy good health and a high standard of living, and participate actively as citizens of the world.

There is extensive research evidence of inequitable provision for Māori in “mainstream” schooling and of negative impacts on achievement that cannot be accounted for by the socio-economic status of families.²¹ There is also evidence that, despite all the challenges, the pattern of outcomes from the relatively recent provision of Māori-medium schooling (initially funded by whānau, not the state) is very different.

The first kohanga reo were set up just over three decades ago in 1982, followed by the first kura kaupapa Māori in 1985. It was only in 1999 that the national organisation, Te Rūnanga Nui o Ngā Kura Kaupapa Māori, was able to get Te Aho Matua philosophy accepted in legislation.

Notwithstanding this short history, by 2003 students in Māori-medium education were achieving significantly more highly at senior secondary level than their peers in English-medium schools.²² And NCEA data for 2005–11 confirm that achievement levels of Māori in wharekura have been on a steep improvement trajectory.

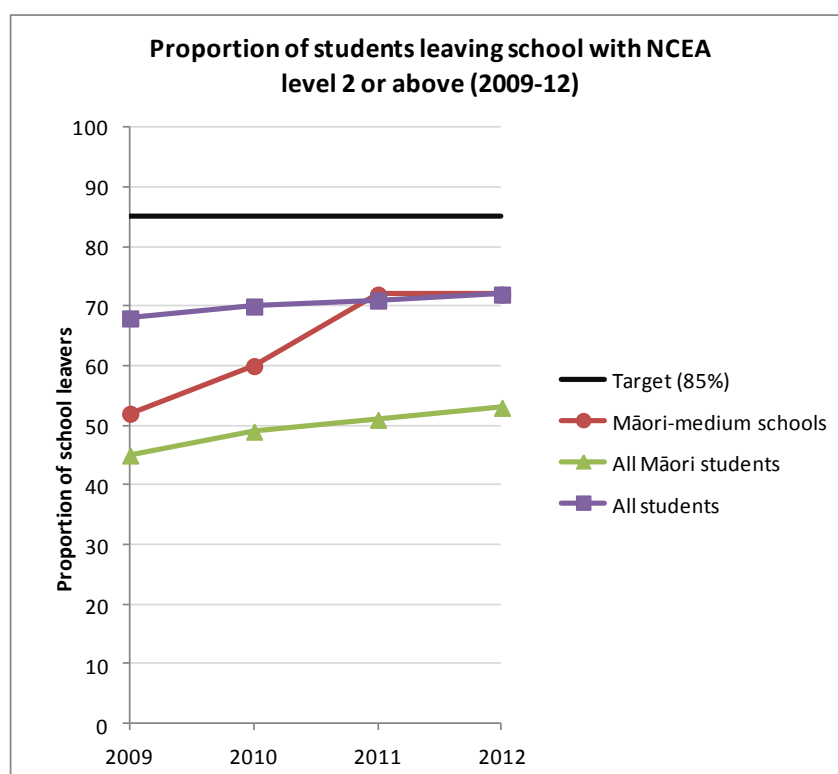


Figure 1. Proportion of students leaving school with NCEA level 2 or above: All Māori, Māori in Māori-medium schools, and all students

In 2012, 287 students from Māori-medium education left with NCEA level 2 and above; as a percentage – virtually the same as for students in the “all students” category. But for Māori nationally (“all Māori students”) the corresponding percentage was far lower at 54.6%.

The BESS²³ identify some of the many ways in which teaching can inadvertently “other”²⁴ Māori learners in “mainstream” schooling and the impacts that such “othering” can have. For example, curriculum bias, a failure to recognise the crucial role of culture in education, and traditional teaching

approaches can all trigger peer racism, bullying, negative classroom interactions, and student failure, even in the classrooms of well-intentioned, dedicated teachers. Students experience these effects across the curriculum, but especially in social science subjects. These impacts are compellingly illustrated by the question that a five-year-old New Zealand boy put to his parents after his first week at school: “How can I make my skin white?”²⁵

Even on what should be a relatively simple matter such as normalising the teaching of te reo Māori in mainstream schooling, progress has been slow. As of 2012, students at no fewer than 38 New Zealand secondary schools were able to take French but not te reo Māori or te reo rangatira.²⁶

One measure of the cumulative impact of this “othering” is the retention rate of Māori in years 11–13, which historically has been much lower than for Pākehā, Asian, and Pasifika students. This difference is clearly demonstrated by the 2012 data²⁷ (Figure 2).

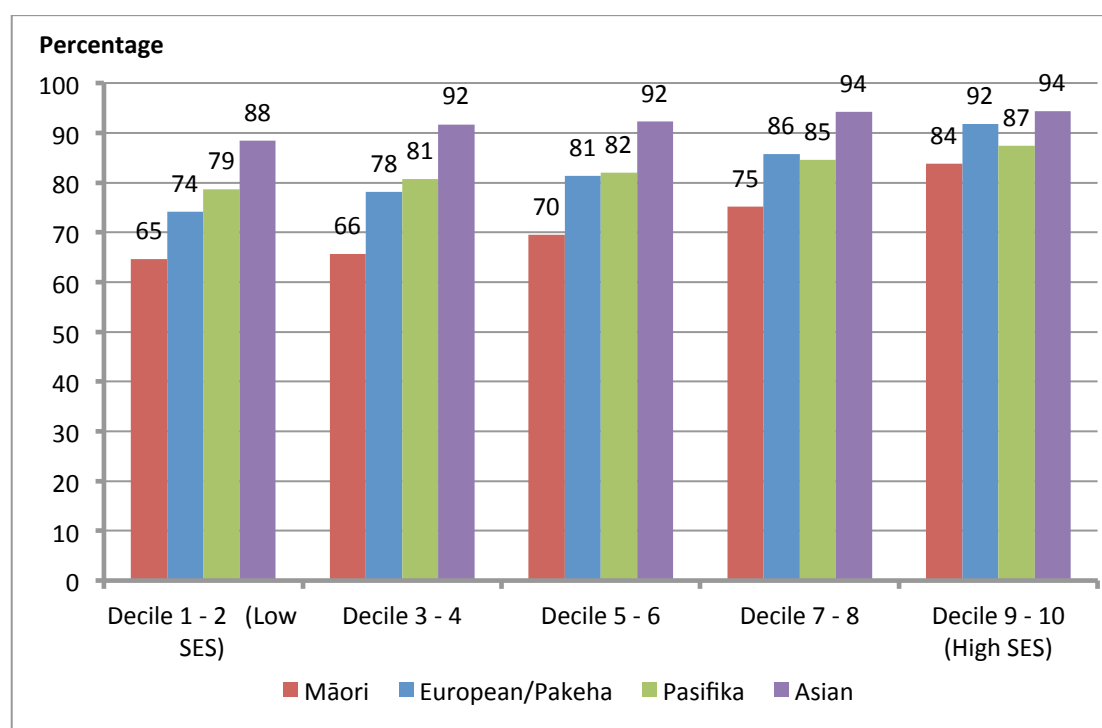


Figure 2. Percentage of school leavers aged 17 or above by school quintile (2012)²⁸

National trend data show a complex picture for Māori achievement at upper secondary school. The Ministry of Education’s Education Indicators for 2013 revealed that:

*Looking at the ethnic group trends, the largest proportional increases in those attaining at least NCEA Level 2 has been in Māori school leavers, with an increase of 19.3% between 2009 (45.7%) and 2012 (54.6%).*²⁹

But as already noted, 2012 PISA data show a marked decline for Māori 15-year-olds on mathematics and science³⁰.

Māori student achievement in primary level mathematics and science declined significantly between 2002 and 2011. In fact, the most recent period in which there was a significant increase in Māori achievement in mathematics and science at primary level, as measured by the Trends in International Mathematics and Science Study (TIMSS), was 1998–2002 (see Appendix, page 73). This change occurred after the Numeracy Development Project, which was initially offered only to low-decile schools, was scaled up to include higher-decile schools and then discontinued. The lower performance of cohorts now reaching year 11 may pose new challenges for secondary schools. Such findings highlight the need for cross-sector vigilance, coherent intervention and highly effective, sustainable professional development strategies that enable ongoing improvement.

It is important that we do not respond to negative trend data with simplistic strategies based on the premise that “teachers must try harder”. Sustainable reform in education is complex and elusive so the *how* and *why* are critically important. We need to be aware of the factors that have threatened or impeded improvement efforts in the past and/or elsewhere so that we can avoid the same pitfalls and advance genuinely effective reform.

Many of New Zealand’s schooling improvement efforts have not featured in the BESs because, based on the evidence, they have had little or no impact on student achievement. This lack of success does not imply lack of effort. In fact, schools can be trying so hard that they fall victim to what Robinson and Timperley call the “Christmas tree effect”³¹, implementing multiple overlapping interventions without sufficient attention to coherence or strategic alignment. In such situations teachers are often overwhelmed by the pressures in return for meagre gains at best. Also, pursuing policy objectives via ever shorter interventions is unlikely to make a good return on investment – an analysis of 97 studies for the *Teacher Professional Learning and Development* BES found that substantive acceleration of improvement in any particular curriculum area takes one to two years.

Where examples of highly effective practice have been identified, adequate resourcing has rarely been made available to ensure their sustainability or spread. The *Teacher Professional Learning and Development* BES found that most highly effective interventions are short-lived and that there remain significant gaps in the evidence relating to sustainability. The extensive international research literature on scaling up shows that, even in well-funded contexts, there have been many failed reforms.³²

To confront this challenge a presidential session at the 2012 annual meeting of the American Educational Research Association featured an investigation into barriers to, and affordances for scaling up education reform. It was entitled “We know it works here: Can we make it work there?”³³

Education research journals are filled with promising practices and interventions, with efficacy established using methods ranging from design experiments to randomized control trials. Taking promising programs, policies, or practices to scale has proven incredibly difficult for education researchers. The challenges inherent in designing and scaling up interventions include lack of teacher buy-in and participation (Datnow, Hubbard, & Mehan, 2002; Glennan, Bodilly, Galegher, & Kerr, 2004; Nunnery 1998), inadequate attention to the organizational context in which the practices are to be implemented (Bodilly et al., 1998; Elmore, 1996; Fullan, 2001; Stringfield & Datnow, 1998), and conflicts between designs and other district programs or mandates (Berends, Bodilly, & Kirby, 2002; Datnow, McHugh et al., 1998; Stringfield, Datnow et al., 2000). The result is a persistent research-to-practice gap (e.g., Ball, 1995; Carnine, 1997; Darling-Hammond, 1996; Elmore, 1996; Gersten, Vaughn, Deshler, & Schiller, 1997).³⁴

As we look to accelerate system improvement for Māori, we have a valuable resource in the learning gained from Te Kotahitanga, an effective reform exemplifying an ongoing improvement trajectory, grounded in evidence-based theory.

In 2010, as Te Kotahitanga Phase 5 was getting underway, Bishop, O’Sullivan and Berryman published the accumulated findings from the project in *Scaling up education reform: Addressing the politics of disparity*. This book explains the GPILSEO model³⁵ (Figure 3), developed out of the evidence from the successive phases of Te Kotahitanga and the wider research evidence about effective reform. The model encapsulates the classroom, school and system level changes necessary for achieving deep and sustainable educational improvement.



Figure 3. GPILSEO: The Te Kotahitanga model for scaling reform

While leading the intervention in Phase 5 schools, the Te Kotahitanga team was simultaneously providing support for Phase 4 schools as those schools took over most of the responsibility for funding the intervention. They also continued to find ways of working with the wider cohort of Te Kotahitanga schools to support school leadership in reactivating, strengthening, and/or sustaining their improvement trajectories.

Te Kotahitanga Phase 5 incorporated the learning gained from the previous four phases of the intervention. Going forward, we have the opportunity to leverage this body of knowledge and expertise, and to harness the momentum and professional ownership already developed.

1.3 Early evidence for the effectiveness of Te Kotahitanga: Phases 1–4

As already mentioned, the writers of five BESs³⁶ found Te Kotahitanga to have a positive impact on valued outcomes for Māori and other learners. In fact, Te Kotahitanga was the only New Zealand cross-curricular professional development intervention that met the criteria for inclusion in the *Teacher Professional Learning and Development* BES. There may have been other successful interventions where gains in achievement were not tracked or reported, but numerous well-funded studies were excluded because the data revealed little or no impact on achievement.

The *Teacher Professional Learning and Development* BES features a case from Phase 3³⁷ in which, over one year of the intervention, year 9 and 10 Māori students made much larger gains in mathematics (effect size = 0.76) than those in a comparison group (effect size = 0.52)^{iv}. This finding is particularly important because it demonstrates effective interfacing between a curriculum-specific intervention (the Secondary Numeracy Project [SNP]) and Te Kotahitanga. The SNP alone had a moderately improving impact on the mathematics achievement of Māori, but when implemented in Te Kotahitanga schools, this impact was accelerated.

With Phase 3 in its third year at the time, the writers of the BES also identified a longitudinal effect on NCEA achievement across subjects: a 16.4 percentage point increase in the proportion of year 11 Māori gaining level 1 in 2006 compared with an 8.9 percentage point increase for a decile-weighted comparison group. There was however considerable variation between Phase 3 schools at that time.

Led by Professors Luanna Meyer and Wally Penetito of Victoria University, an independent evaluation of Te Kotahitanga's implementation in 12 Phase 3 and 21 Phase 4 schools over the period 2004–08 concluded that:

^{iv} Hattie advised (2009) that when evaluating educational gains an effect size of 0.20 is small, 0.40 is medium, and 0.60 is large. Hattie, J. (2009). *Visible teaching - Visible learning: A synthesis of 800+ meta-analyses on achievement*. London: Routledge.

With few exceptions, teachers, principals, boards of trustees chairs, and facilitators were overwhelmingly positive about Te Kotahitanga professional development model as a sound and effective process of improving classroom teaching and learning for Māori students.³⁸

The evaluators found that Te Kotahitanga had had a marked impact on retention. Across the Phase 3 schools, the number of Māori students enrolled in year 11 increased on average by approximately 250% over the period 2005–08.³⁹ And although the intervention involved only teachers of year 9 and 10 students, its impact extended into the senior school:

[NCEA results,] compared with those at demographically similar schools from 2004–2008, revealed enhanced performance for Māori students at Te Kotahitanga schools on several achievement indicators.⁴⁰

The evaluators also found that Te Kotahitanga schools also had a higher mean percentage of the total school population gaining University Entrance in year 13.⁴¹

The University of Waikato reported continuing longitudinal gains for Phase 3 schools, with the percentage of Māori students achieving at least NCEA level 2 increasing from 45.4 in 2007 to 52.5 in 2009; in Phase 4 schools the shift was from 47.0% to 51.7%.⁴² Despite the lower deciles of the Te Kotahitanga schools, this gain was greater than the national gain. And with more than 50% of Māori achieving at this level over the two phases, a symbolically important milestone was reached.

Using the GPILSEO framework the Te Kotahitanga project team did successive analyses to determine how fully Phase 3 and Phase 4 schools had implemented the intervention. Each was found to be somewhere on a continuum from high implementer–high maintainer to low implementer–low maintainer. The team found that location on this continuum was a good predictor of effectiveness: “those schools that fully implemented and maintained the programme in an integrated way had the best outcomes for Māori students.”⁴³ See Table 2 for the 2010 analysis of Phase 3 schools (a number of these schools subsequently sought and engaged in reactivation interventions).

Table 2. Implementation and sustainability in Phase 3 Te Kotahitanga schools (2010)

Category	Number of schools
High implementers and high maintainers ^v	4
Previously high implementers but currently low maintainers	3
Previously partial implementers but currently poised to fully implement	4
Low implementers and low maintainers	1

In presenting the above analysis, the Te Kotahitanga project team were careful to acknowledge the work of high-implementing, high-maintaining individuals in all the schools:

In each school ... there are shining examples of colleagues who implement the Effective Teaching Profile to a very high degree, and who are supporting Māori students to enjoy success in education as Māori very effectively.⁴⁴

For Phase 3, at the time of initial analysis, 33% of the schools were high implementers and high maintainers. A comparable analysis for Phase 4 showed that, after three years of the intervention and three further years of school-based efforts, 42% were high implementers and high maintainers; 32% were low implementers and low maintainers.⁴⁵

^v It is worth noting that in 2014 Kerikeri High School, a Te Kotahitanga Phase 3 school, was joint inaugural winner of the Prime Minister's Atātū Award / Award for Excellence in Teaching and Learning. Said the judges, “Staff and students ... present a unity of purpose and harmony that is inspirational and uplifting. This is a school that lives by the principle of Ako, recognising we are all teachers and learners.” See www.pmawards.education.govt.nz/winners

Table 3 summarises six factors that were found to be crucial for sustainability in the final three years of Phase 4 (2010–12).

Table 3. Factors influencing implementation and sustainability in Phase 4 Te Kotahitanga schools

High Implementation	Low Implementation
Consistent implementation of pedagogic intervention	Inconsistent implementation of pedagogical intervention
Consistent staffing of project in terms of long-term support for role of lead facilitator	Changes in leadership and/or expert staffing jeopardised the project
Lead facilitator position at least 0.5, optimally 0.7–0.8	Many facilitators engaged at 0.2 or 0.3 of workload so unable to attend ongoing professional learning activities provided by university R & D team
Reduction of appointments for small proportions of time e.g. 0.2	
Reprioritise own funds to maintain facilitation function	Less likely to reprioritise own funds to maintain facilitation function
Institutionalising of pedagogic intervention into school practices	Not institutionalising pedagogic intervention into school practices

When it comes to sustainability, school leadership plays a critical role. For example, in one school, a new principal without Te Kotahitanga training set out to refocus the school's direction and efforts. Another Phase 4 school experienced seven changes of principal. Yet others lost key personnel as high-decile schools, unable to access the intervention, looked to appoint staff with expertise in Te Kotahitanga. Changes such as these required reactivation of the Te Kotahitanga intervention with new leadership.

Too little investment in developing school-based facilitation expertise jeopardised implementation and sustainability. So did over-reliance on and delegation to external expertise. The project team responded to these findings by promoting the development of distributed leadership:

In keeping with the iterative ethos of Te Kotahitanga, an additional professional development component has been introduced that supports the development of distributed leadership within the school, and the sustainability of the reform. This, along with everything else that has been learnt during this research phase, is now being applied in Phase 5 schools and will continue to be developed and applied.⁴⁶

Making a deliberate decision to focus on sustainability in the Phase 5 schools instead of scaling up the intervention by bringing in a new cohort of schools, the project team directed its expertise at optimising those conditions for ownership and integration that would secure more consistent implementation and an ongoing improvement trajectory.

Intensive work with Phase 3 and 4 schools seeking reactivation gave the R & D team deep insight into these conditions. It is this kind of knowledge that is most needed when developing strategies for a system-level step-up.

2.0 Approach

2.1 Phase 5 context and data sources

This report focuses on the effectiveness of Phase 5, which was informed by the earlier phases and by new knowledge about leadership, school–whānau connections, implementation, scaling up, autonomy, accountability, momentum, and sustainability. The analysis relates to the first three years of Phase 5 (up to and including 2012), which were under the directorship of Professor Russell Bishop and Academic and Professional Development Director, Associate Professor Mere Berryman. Berryman took over the directorship of Phase 5 from September 2012.

Our analysis focuses on achievement in NCEA levels 1, 2 and 3, and University Entrance, using data from the Ministry's new ENROL database. As this database was in development at the time, an iterative checking process has been used to ensure that our findings are trustworthy.

Supplementary analyses from other data sources such as the Ministry's NCEA level 2 school achievement profiles and NZQA data relating to the New Zealand Qualifications Framework and used in the Ministry's Education Indicators have been used to provide independent or further information.

Although Phase 5 did not officially begin until the start of the 2010 school year, preparations actually began in terms 3 and 4 of 2009 as schools opted in and started to develop data monitoring strategies that would help them better serve their Māori learners. In the 5-year-plan developed in 2009 for Phase 5 schools, this preparatory period was described as "Year 0 whakawhanaungatanga – relationship building: Te Kotahitanga team establishing relationships with and amongst schools and with the aspirations, theories and practices of Te Kotahitanga".⁴⁷ To ensure that any impacts from these early preparations could be explored, data for the pre-intervention years (2008 and 2009) were gathered. This report incorporates these and all subsequent data, including the most recent data for 2012.

School leaver data gathering has become more comprehensive in recent years and now includes leavers who could not previously be identified, including some who are just 15 on their last day of attendance. Trend results that include this data are available from 2009 and have been used in this report.

Our analyses are based on school year rather than age because this links achievement to provision. This approach reveals that some Māori are still being required to repeat a year in primary school, a practice that international and New Zealand evidence has shown to be harmful.⁴⁸

Other independent analyses of the effectiveness of Te Kotahitanga have been included where available. For example, analyses carried out by Professor James Ladwig of the University of Newcastle.

Te Kotahitanga supported Māori to succeed as Māori. In Table 9 (page 29), we quote with permission a number of comments that students at William Colenso College (a Phase 5, decile 2 school) made to the WISE judges in response to their questions (the principal and staff had absented themselves by this time so that the students could speak freely). The comments illustrate just how profoundly students' experience of school can change in response to an effective, culturally responsive pedagogy of relations.

The perspectives voiced by these Māori students are consistent with those of students in other high-implementing Te Kotahitanga contexts as reported across milestone reports, theses and other evaluations. Feedback obtained via the Rongohia te Hau survey tool provides further evidence that such perspectives may be widely shared. The project team developed this tool to give schools a means of quickly, systematically and responsively attending to feedback from all Māori students. Because it was still in development during Phase 5, this report makes only limited use of data obtained by this means.

2.2 The Phase 5 schools

Phase 5 was implemented in 2010 in 16 secondary or composite schools with large Māori student populations (17 schools had been invited but one high performing school that had previously participated in Phase 2 pulled out). The 16 schools comprised one decile 1 school, seven decile 2 schools, four decile 3 schools, one decile 4 school, one decile 5 school and two decile 6 schools. The mean decile rating of 3.0 was lower than for any of the other four phases.

Over the three years 2010–12 there were some 11,608 Māori students in Phase 5 schools⁴⁹, including 856 at primary level. Enrolments represented 3.8% of all Māori school students and 9.4% of Māori students in secondary and composite schools. Given this extensive reach, Phase 5 had particular significance for New Zealand secondary schooling.

Our NCEA analysis focuses on the impact of the Phase 5 intervention on the 6204 Māori students who were in year 11 or above in 2010–12. (Note that those who were in year 13 in 2010 experienced the intervention for a maximum of a year while those in years 11 and 12 potentially felt its impact over two or three years, so the same student may be included two or three times in the data.)

Table 4. Number of students in years 11–13 in Phase 5 schools (including in the two pre-intervention years, 2008–09)⁵⁰

	Year 11	Year 12	Year 13	Total
2008	1380	1033	442	2855
2009	1399	1011	523	2933
2010	1442	1122	580	3144
2011	1435	1210	623	3268
2012	1347	1091	799	3237

2.3 Analysis of achievement

To enable evaluation of the effect of Te Kotahitanga Phase 5, in the analyses that follow, the achievement rates of Māori in Phase 5 schools are compared with those of Māori in non-Te Kotahitanga schools. Details of the method are described in a technical report⁵¹.

For the purposes of these analyses, achievement rates are defined as the percentages of Māori students in a cohort who attain the target NCEA qualification for their year: level 1 in year 11, level 2 in year 12, and level 3 in year 13. Because Te Kotahitanga was designed to accelerate the progress of Māori in kura auraki (“mainstream” schools), data for Māori students in Māori-medium/kaupapa Māori schools are not included.⁵² The report uses actual per cent changes as a benchmark, and to provide a measure of the rate at which change was occurring, it also reports percentage change in achievement rates.^{vi}

Of the 16 schools in Phase 5, four were boys’ schools and one was a girls’ school. To ensure that valid comparisons could be made between the intervention and comparison groups the comparison group results were adjusted for gender and for decile. The results for students in schools designated for special needs students were excluded from the comparison group.

Māori students in alternative education were also excluded because the staff working with them were off-site and/or not participating in the Phase 5 intervention. Those in teen parent units were excluded

^{vi} For example, in Phase 5 schools Māori achievement in NCEA level 2 increased from 44.9% in 2009 to 53.5% in 2010 (see Figure 5). This represented an actual increase of 8.6% (comparing numbers), and a 19.1% increase in the rate of achievement (comparing rates: $53.5 / 44.9 = 1.191$ or 119.1%).

for the same reason. If or when these students returned to mainstream education in their Phase 5 schools their results were included.

Results for Māori students from schools that were involved in earlier phases of Te Kotahitanga were excluded from the comparison group.

It is important to note that the schools from which students in the comparison group came were often also actively involved in interventions, including interventions aimed at enhancing Māori achievement, so the comparisons in this report are not between schools that were and were not involved in an intervention.

The shifts identified in the Phase 5 schools have been tested for statistical significance. The probability that a finding is due to chance is reported as a *p*-value.

2.4 Changes to national assessment are a complication

Major changes to NCEA were a complicating factor for this analysis. These were the outcome of the “standards alignment” process, in which the achievement standards against which students are assessed were reviewed, revised, and often rewritten to align with outcomes described in *The New Zealand Curriculum* (2007). The “aligned” standards were introduced progressively: level 1 in 2011, level 2 in 2012, and level 3 in 2013. As part of this process most unit standards, which offered an alternative to achievement standards, were phased out.

The combined impacts of these changes are generally thought to have raised the bar. Achievement rates for both Phase 5 and comparison schools (beginning in 2011 with NCEA level 1) are likely to be depressed as a consequence, meaning that the findings in this analysis (and the findings for any senior school intervention over this period of time) are probably conservative. In spite of the changes, the achievement of Māori students in Phase 5 schools went up for both level 1 and level 2. This was not the case for students in the comparison group.

3.0 Results

3.1 Enrolment and retention

Between 2009 and 2012 the proportion of Māori school leavers aged 17 or over in Phase 5 schools went up from 58.6% to 64.9% – a rate of increase of 10.6%, which is almost twice (1.7 times) the rate for Māori nationally.

There was also a marked increase in retention/enrolment of Māori students into year 13, with the 2011 cohort equating to 55.5% of the previous year's year 12 cohort and the 2012 cohort equating to 66.0% of the previous year's year 12 cohort – a rate of increase of 18.9%.^{vii}

Given the long-standing pattern of relatively low retention of Māori to year 13, these are important indicators of change.

In 2010 and 2011 there was a significant increase in Māori student numbers in years 12 and 13. In 2012, however, the numbers in years 11 and 12 declined. Principals say that intensive activity to transition Māori students into work may partly account for the change. This requires further investigation.

^{vii} As previously noted, some year 13s were transfers rather than retentions. One school found evidence that students were transferring from elsewhere specifically because they wanted to go to a Te Kotahitanga school.

3.2 Achievement effects: NCEA level 1

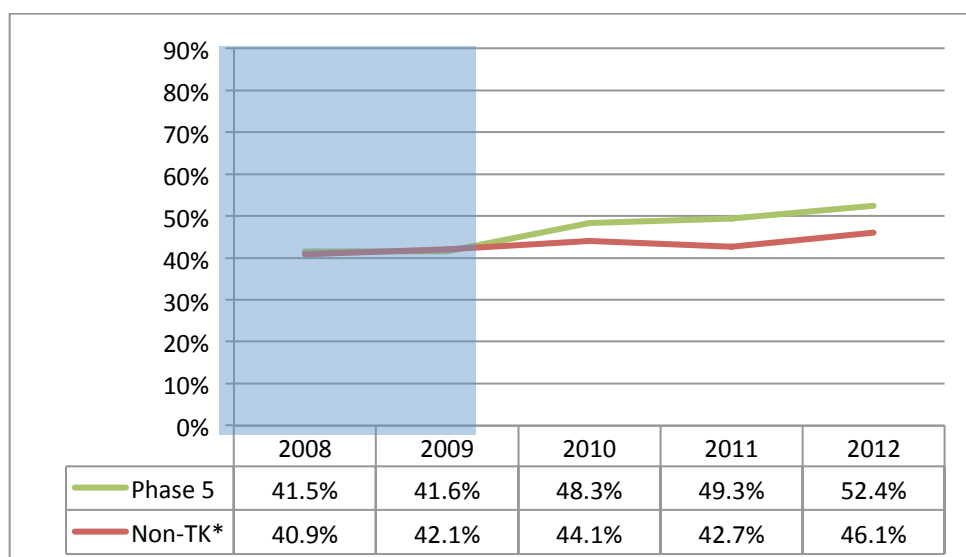


Figure 4. Achievement of Phase 5 and non-Te Kotahitanga Māori in NCEA level 1 (2008–09 data are included for comparison purposes)

Analysis of the achievement of year 11 Māori students in NCEA level 1 in Phase 5 and comparison schools reveals that:

- Before the intervention began in 2010 there was no statistical difference in the achievement of the two groups. Following the advent of Phase 5, Māori in the intervention schools achieved significantly more highly ($p < 0.001$) and on a steeper improvement trajectory.
- Over the period 2009–12, Māori achievement increased at a rate of 26.0% in the Phase 5 schools but only 9.5% in the comparison schools.
- In the pre-intervention period (2008–09), there was greater momentum for improvement in the comparison schools than in the schools that subsequently signed up for Te Kotahitanga. This pattern reversed as the intervention got underway.
- In pre-intervention 2009, 41.6% of Māori students in what would become Phase 5 schools achieved NCEA level 1; in 2010, the first year of the intervention, the comparable statistic was 48.3% – a statistically significant increase in achievement.
- Despite the introduction of the new level 1 achievement standards in 2011 an improvement trajectory was sustained in Te Kotahitanga schools; in the national comparison group the achievement of Māori on the same measure actually declined.

3.3 Achievement effects: NCEA level 2

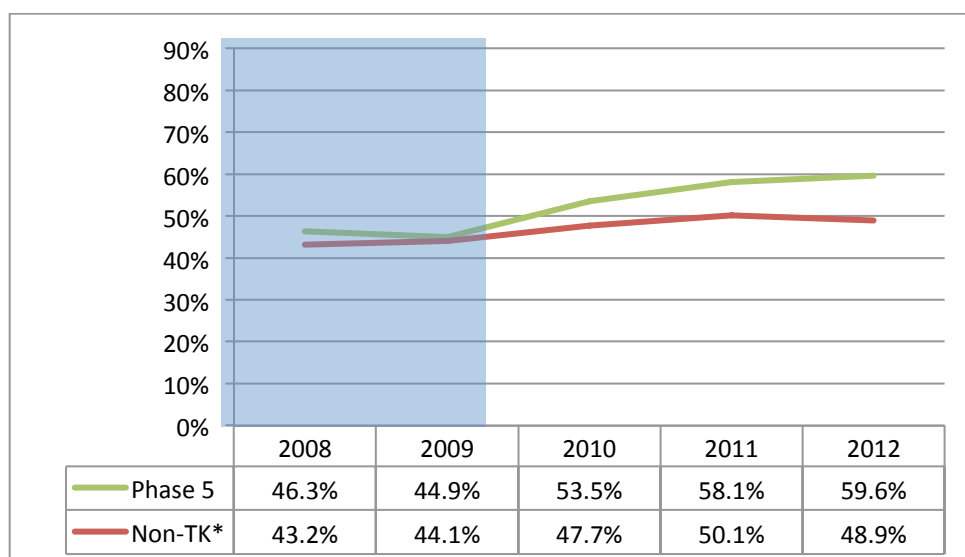


Figure 5. Achievement of Phase 5 and non-Te Kotahitanga Māori in NCEA level 2 (2008–09 data are included for comparison purposes)

Analysis of the achievement of year 12 Māori students in NCEA level 2 in Phase 5 and comparison schools reveals that:

- Over the period 2009–12, Māori achievement increased by a rate of 32.7% in Phase 5 schools but only by 11.0% in the comparison schools.
- In 2012, over 59% of Māori students in Phase 5 schools attained NCEA level 2 compared with just under 49% in the comparison schools.
- In the two years prior to the start of the Phase 5 intervention (2008–09), level 2 achievement actually declined in the schools that were to become Te Kotahitanga schools.
- Despite the introduction of the new level 2 achievement standards in 2012 an improvement trajectory was sustained in Te Kotahitanga schools; in the national comparison group the achievement of Māori on the same measure actually declined.
- The achievement of year 12 Māori in the 16 Phase 5 schools (mean decile = 3) was 59.6%, which was on a par with the achievement of year 12 Māori compared across all deciles of 59.9%.⁵³

3.4 Achievement effects: NCEA level 3

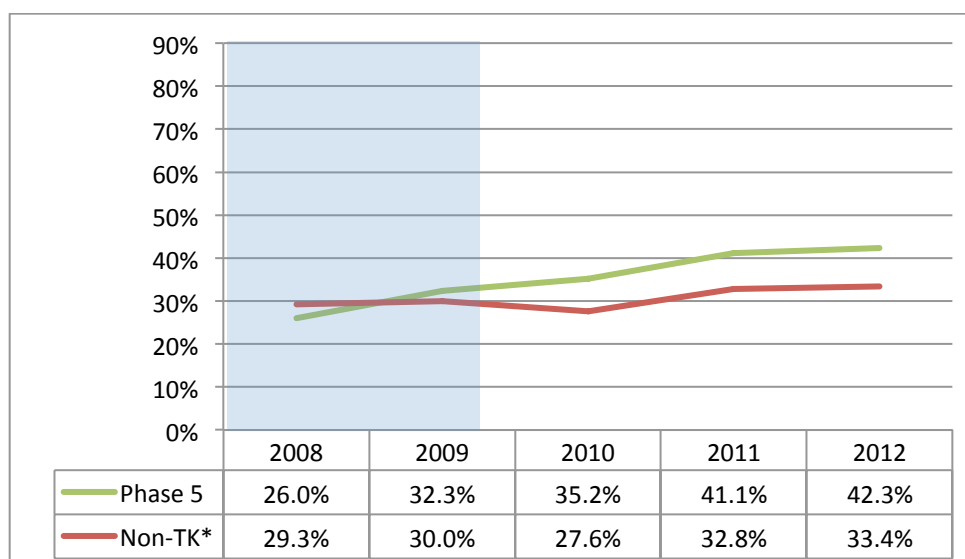


Figure 6. Achievement of Phase 5 and non-Te Kotahitanga Māori in NCEA level 3 (2008–09 data are included for comparison purposes)

Table 5. Year 13 Māori achieving NCEA level 3 in Phase 5 schools

	2008	2009	2010	2011	2012
Māori achieving NCEA level 3	115	169	204	256	338
Māori in year 13	442	523	580	623	799

Analysis of the achievement of year 13 Māori students in NCEA level 3 in Phase 5 and comparison schools reveals that:

- In 2008, prior to the intervention, Māori in the comparison schools had a better record of achievement in NCEA level 3 than those in the schools that subsequently became Phase 5 schools. This pattern reversed in 2009, and the gap between the two groups continued to widen throughout the intervention. Why did this trend begin before the “official” start of the intervention in 2010? One hypothesis is that Māori students who were already within reach of level 3 were able to gain benefit from changes in school practices introduced in terms 3 and 4.
- The number of Māori students achieving level 3 in year 13 in the Phase 5 schools nearly tripled from 2008 to 2012.
- Over the period 2009–12, achievement of Māori in NCEA level 3 increased at a rate of 30.9% in the Phase 5 schools but only 11.5% in the comparison schools. As a consequence, 42% of Māori in Te Kotahitanga schools gained level 3 in year 13 compared with just over 33% in the comparison schools.

The lift in level 3 attainment by Māori students in the Phase 5 schools is particularly significant given the rate at which year 13 enrolment increased (53% over the period 2009–12 and 81% from 2008, the year before the schools opted into Te Kotahitanga).

3.5 Achievement effects: University Entrance

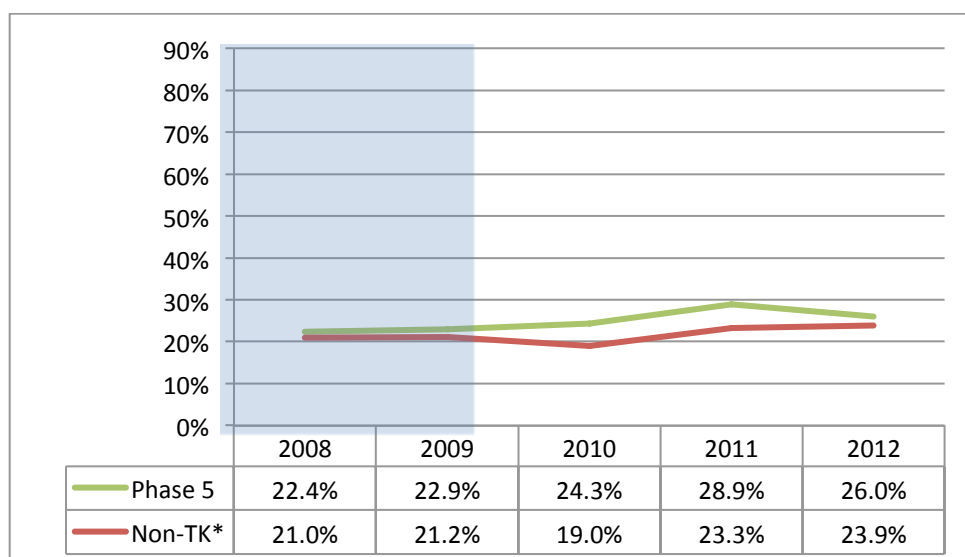


Figure 7. Phase 5 and non-Te Kotahitanga Māori achieving University Entrance (2008–09 data are included for comparison purposes)

Table 6. Year 13 Māori achieving University Entrance in Phase 5 schools

	2008	2009	2010	2011	2012
Māori achieving University Entrance	99	120	141	180	208
Māori in year 13	442	523	580	623	799

Analysis of University Entrance achievement by year 13 Māori in Phase 5 and comparison schools reveals that:

- Prior to the intervention, the percentage of year 13 Māori students achieving University Entrance in Phase 5 schools was around 1.4 to 1.7 points higher than that in the comparison group. The improvement trajectory for Māori in Phase 5 schools was slightly higher than for the comparison group (a significant lift to 28.9% in 2011 was followed by a drop to 26% in 2012).
- From 2009 to 2011, University Entrance attainment increased at a rate of 25.9% in Phase 5 schools but in 2012 the percentage of year 13 Māori achieving University Entrance declined (from 28.9 to 26.0), meaning that the rate of increase measured across 2009–12 was lower at 13.5%. It may be that the introduction of the new achievement standards and new requirements for literacy and numeracy were factors behind this dip.
- The actual number of year 13 Māori in Phase 5 school gaining University Entrance increased by 110%, and this was in a context of greatly increased numbers of Māori enrolled in year 13 (the number increased by 81% over the period 2008–12).

3.6 School leaver data

A policy priority for Government is the Better Public Service Target of 85% of 18-year-olds gaining NCEA level 2 or equivalent qualifications. In this context, the Ministry's School Leaver Database is a vital source of information about school leaver achievement, aggregated by school.

Using this database, Professor John Hattie, Director of the Melbourne Education Research Institute, analysed the NCEA level 2 achievement of Māori leavers across the Phase 5 schools and found an effect size of 0.82, which he considered "impressive".^{viii}

Over the period 2009–12 the NCEA level 2 achievement of Māori leavers increased in 14 of the 16 Phase 5 schools.

The percentage of Māori students gaining NCEA level 2 at the school that had earlier been in Te Kotahitanga but then decided not to participate in Phase 5 dropped incrementally from 66.7% in 2009 to 50% in 2012.⁵⁴ This provides further evidence of the significance of Phase 5 and of the challenge of sustainability: Te Kotahitanga consisted of hard-won gains, not a one-off inoculation.

Table 7 shows the percentage of Māori students leaving Phase 5 schools with NCEA level 2 in 2009 (pre-intervention) and 2012. Note that School 1 had changes of principal and the board of trustees decided to focus on a different Ministry intervention. By December 2011 the project team were deeply concerned: "Progress visits, milestone reports and school implementation of Te Kotahitanga continue to indicate that the principal of [...] School is continuing to lead the school in ways that are not supported by the Project Team".⁵⁵ This situation contributed to new developments in the project in terms of how to problem solve leadership-related issues. These are highlighted later in this report.

In School 4, NCEA level 2 achievement improved each year before dropping back in 2012.

Table 7. Māori school leavers with NCEA level 2

Phase 5 school	2009 (%)	2012 (%)	Increase (%)
1	69.6	56.0	–13.6
2	66.2	68.3	2.1
3	56.3	67.3	11.0
4	52.8	48.1	–4.7
5	51.9	61.9	10.0
6	51.1	56.0	4.9
7	49.4	60.4	11.0
8	46.5	59.4	12.9
9	45.5	54.3	8.8
10	44.2	57.8	13.6
11	42.1	53.8	11.7
12	38.0	70.6	32.6
13	26.8	47.8	21.0
14	22.6	41.2	18.6
15	21.1	34.7	13.6
16	15.0	35.4	20.4

^{viii} Using Hattie's benchmarks, an effect size of 0.82 may be considered very large (see footnote page 16).

Hattie explains that it is:

... important that the changes generally are across schools – one of my worries was that there would be a few with great changes and some not but these data show a reasonably consistent pattern (I would love to know a bit more about any hypotheses about the two negative change schools) ... my concern is mostly answered by [the fact that] the spread is across schools and not particular to a small number of them ... I am convinced.⁵⁶

3.7 Māori succeeding as Māori: identity, language and culture count

The Rongohia te Hau survey tool developed as part of Te Kotahitanga Phase 5 makes it possible for schools to easily obtain a snapshot of how their Māori students (indeed, all their students) experience school. Schools can use leading indicators derived from student feedback to diagnose need and inform and review improvement efforts. The tool also offers a means of formatively evaluating shifts in students' perceptions of school.

Table 8 provides a snapshot of how year 9 and/or 10 Māori students from 15 Phase 5 schools were experiencing their education in Term 3, 2011.⁵⁷

Table 8. Year 9 and/or 10 Māori student perspectives from 15 Phase 5 schools

Always	Mostly	Sometimes	Hardly Ever	Never
<i>It feels good to be Māori in this school</i>				
516 64.3%	185 23.1%	87 10.8%	12 1.5%	2 0.0%
<i>Teachers know how to help me learn</i>				
180 21.9%	328 39.9%	240 29.2%	61 7.4%	14 1.7%
<i>Teachers let us help each other with our work</i>				
103 12.4%	265 31.9%	298 35.9%	138 16.6%	27 3.3%
<i>Teachers talk with me about my results so I can do better</i>				
143 17.3%	258 31.3%	246 29.8%	135 16.4%	43 5.2%

A survey carried out using the Rongohia te Hau tool shows William Colenso College to be one of a number of Phase 5 schools where a high proportion of Māori students report that it “always” or “mostly” feels good to be Māori. And as they moved from year 9 to 10, the percentage of Māori students reporting that it “always” or “mostly” “feels good to be Māori in this school” increased.

In 2013, representatives from the World Innovation Summit in Education (WISE) came to William Colenso College to investigate the effectiveness of Te Kotahitanga. As part of this investigation they asked groups of Māori students about their experience of school. See Table 9 (below) for a sampling of their comments – and for the purposes of comparison, a sampling of the student comments that had informed the development of Te Kotahitanga way back in 2001.

Table 9. Māori succeeding as Māori: What Māori students are telling us

Students interviewed in 2001 as part of Te Kotahitanga Phase 1 ⁵⁸	Students from William Colenso College (Phase 5 school) in conjunction with WISE awards 2013 ⁵⁹
<p>When I started at this school, I had a Māori name [Hinemaia] but none of the teachers could say it so now I am Tania.</p> <p>She makes me feel like I've got a dumb name and I'm dumb.</p> <p>It happens to most of us, they [the teacher] can't pronounce it properly.</p> <p>I used to be asked like this: "You are not a Māori are you?" [Said in a derogatory way]</p> <p>We are nothing Māori if we are good in class, but we are Māori if we smoke pot or whatever.</p> <p>The teacher I liked best wasn't Māori, but he could have been. He knew how to say my name.</p>	<p>[In this school]:</p> <p>It's a real good feeling being Māori.</p> <p>Being Māori is like being a leader and a real good role model.</p> <p>Being Māori – it's pretty solid at the moment.</p> <p>I got the big waka – it's for being, like, a Māori role model. It makes you feel self-worth knowing that you got that for being who you are.</p> <p>We are relaxed. We can be ourselves.</p>
<p>He (the teacher) is racist. Well some people don't like Māori much. It's pretty good here. There are only two teachers that make racist comments.</p> <p>Some teachers pick on us Māori. Some teachers and kids are racist.</p> <p>They don't know you as a person, but they just think you probably steal and you probably get abused at home, and all your family is the same ... I think it is stereotyping ... I don't like being put in that category.</p>	<p>It's like the opposite of racism in this school.⁶⁰</p> <p>We are not scared of our teachers at this school.</p> <p>[What has changed since Te Kotahitanga came to your school?]</p> <p>You can be more open to everyone.</p> <p>You feel way more comfortable around the teachers to learn.</p>
<p>Being Māori means you get hunted more. If you are on the field, and there's a bunch of Māori and a bunch of Pākehā, they [teachers on duty issuing reprimands] will usually go to the Māori.</p> <p>I hate school. We're just going to get kicked out anyway.</p> <p>Something that helps students ... is having a good teacher, like a teacher that you respect and get along well with.</p>	<p>The teachers are caring ... they hunt me down ... save you.</p> <p>When I started here I threw a firework through a window ... Now I am head boy.</p> <p>They give us something to strive for. They give you confidence.</p> <p>I was a lot more ... shy. School has changed a lot ... you know more teachers – getting to know them is the change.</p>
<p>I think the teachers are pleased when I'm away.</p> <p>They don't like me and I don't like them.</p> <p>The maths teacher, he goes, "I don't want to invest my time on you."</p>	<p>They care about us and it's the same after school if we need help. Teachers care for me ... we try harder.</p> <p>[Many students agree: Yes! Yes! Yes! Yes! Yes!]</p> <p>They treat us like we are their kids.</p>
<p>They shame us in class.</p> <p>They don't help you to understand ... Even if you ask them they tell you that you should have been listening.</p> <p>Most of the teachers don't like teaching the dumb streams.</p>	<p>They don't [just] point out that you got it wrong.</p> <p>It's not like they blame you. They blame themselves.</p> <p>They take it personally that it is their fault. They think they are teaching you badly.</p>
<p>It's best just to shut up if you don't want to get into trouble.</p> <p>They don't try to understand where we are coming from.</p> <p>They [deans] are meant to help you. Last year you only went to them if you were bad ... if you did well, you</p>	<p>They try to get to know you. My old teachers didn't notice you.</p> <p>In other schools they don't really connect with you.</p> <p>The teachers come to me.</p> <p>They communicate with you.</p>

never saw them.	They notice you. They notice if you have a problem. They'll sort things until it's actually sorted.
Like when you copy off the board, that's all you do. You don't really learn anything	They help you, teach you.
I think teachers have to be willing to learn as well ...There is this way of thinking. I am the teacher; you are the student. I am right and you are wrong.	I can correct the teacher so that I can learn.
Their marking should tell us what we did wrong and how we could do better. They are all smart and I don't even know what they are talking about.	They give us more independence. We get mid-year reports so everyone can track how their progress is going.
Good teachers ... make us feel OK and that we can do things.	[What does Te Kotahitanga mean to you? What is the difference between your good and bad teachers?] [Several students] We can only tell you about good teachers here ... if you need us to talk about bad teachers we would need to talk about other schools or how it was before Te Kotahitanga. It's different, different, different, here – absolutely!

3.8 Summary of findings

The Te Kotahitanga Phase 5 intervention was associated with a 10.6% increase in the proportion of Māori school leavers aged 17 or over.⁶¹ A large increase in the number of Māori students staying into year 13 meant that many more Māori achieved more advanced secondary school qualifications.

Despite the moving of the goalposts (as a result of the realignment of achievement standards that took place within the period of the Phase 5 intervention), NCEA achievement was accelerated across the Phase 5 schools.

Table 10. Achievement gains for Māori in Te Kotahitanga Phase 5 and a comparison group (2009–12)⁶²

	Achievement as %		Difference as %
	2009	2012	
NCEA level 1			
Te Kotahitanga Phase 5	41.6	52.4	10.8
Comparison group	42.1	46.1	4.0
NCEA level 2			
Te Kotahitanga Phase 5	44.9	59.6	14.7
Comparison group	44.1	48.9	4.8
NCEA level 3			
Te Kotahitanga Phase 5	32.3	42.3	10.0
Comparison group	30.0	33.4	3.4
University Entrance			
Te Kotahitanga Phase 5	22.9	26.0	3.1
Comparison group	21.2	23.9	2.7

The comparison group data summarised in Table 10 reveals that the senior secondary school sector is making gains for Māori across low-decile schools. This is positive news. However, by 2012 fewer than half of the Māori students in the comparison group after gender and decile adjustments were achieving NCEA level 1 and 2 qualifications in their third and fourth years of secondary school. Clearly, this is not good enough.

In the Te Kotahitanga Phase 5 schools, the picture was significantly different. Across these schools, Māori achievement in NCEA was accelerating at around three times the rate of the comparison group. Even better, because of increased enrolment and retention through into year 13, this accelerated improvement occurred for more Māori, including some who previously would have dropped out of school. The greatest acceleration, however, was in NCEA level 2.

While gains in University Entrance achievement were much smaller and more variable, the actual number of year 13 Māori achieving the qualification in Phase 5 schools more than doubled over the period 2008–12.

A comparative finding

Over the same period (2009–12) the impacts on NCEA level 1 achievement of another intervention, Positive Behaviour for Learning School-wide (PB4L), were tracked⁶³, allowing an indicative comparison of the impacts of the two interventions to be made (though it should be noted that PB4L reported effects for all students and did not disaggregate results for Māori in the published report).

Across the 18 PB4L schools there was almost a 6% increase (from 47.01% to 52.92%) in students gaining NCEA level 1 (compared with a 2% increase across the comparison schools). The effect for Māori students in Te Kotahitanga Phase 5 schools was almost twice this, with a 10.8% increase in students gaining NCEA level 1 (from 41.6% to 52.4%).

In the historical context of many schooling improvement efforts that evaluators and BES authors have found to have negligible effects on student outcomes, the PB4L result is a positive outcome. For policy makers seeking to make sound decisions about investment, it is important that other interventions for which there is no comparable evidence of effectiveness available are evaluated in relation to impact on valued student outcomes. Systematic use of a comparative magnitude-of-impact analysis is required to guide policy decision making that can reverse negative trends and/or stasis^{ix} to advance progress on policy priorities such as those set out in *Ka Hikitia* and the Better Public Services Target for NCEA Level 2 attainment rates.

The PB4L programme has a strong overseas evidence base and new evidence of its effectiveness to date on NCEA level 1 results in New Zealand. Use of the PB4L comparison makes transparent how substantive the impact of Te Kotahitanga Phase 5 is at NCEA Level 1, accelerating achievement at almost twice the rate.

^{ix} A situation in which there is neither decline or progress (“treading water”).

4.0 Understanding how the Phase 5 gains were made

*Nōreira, atawhaitia ngā rito, kia puāwai ngā tamariki.
Ako i ngā tamariki, kia tu tāngata ai, tātou katoa.*⁶⁴

*Therefore, cherish and nurture the shoots, so the children will bloom.
Learn from and with these children, so that we all can stand tall.*

For the 6204 Phase 5 Māori students in year 11 or above in 2010–12, the probability of gaining NCEA level 1, 2 or 3 increased rapidly. An educational effect of such magnitude on this scale is rare in the evidence, whether New Zealand or international⁶⁵, and to achieve it in an intervention of this scale represented a breakthrough.

This accelerated improvement was not at the expense of indigenous student identity; quite the opposite. In the words of William Colenso College students (Table 9, page 29), “It’s a real good feeling being Māori”, “Being Māori is like being a leader and a real good role model”, and “We can be ourselves”. Indicative evidence gathered using the Rongohia te Hau survey tool suggests that, far from being exceptional, such comments reflected a wider change that reached many Māori students in Phase 5 schools.

Understanding what does and does not work – even more importantly, what makes a bigger difference, and why and how – is of crucial importance when it comes to effectively accelerating improvement. Only in this way can good, fiscally prudent policy be assured, and the conditions for accelerated and ongoing improvement not jeopardised for cost-saving reasons.

The discussion that follows is informed by the best evidence syntheses, publications and advice of the Te Kotahitanga directors and team, feedback from Māori students and leaders from Phase 5 and other Te Kotahitanga schools, feedback from participants in the Te Kotahitanga Hui Whakanukunuku, and other evidence about educational improvement. This part of the report is intended to contribute to productive inquiry, dialogue and knowledge building to inform policy decision-making and system learning.

4.1 Key elements of Phase 5: Significance of the model

To assist readers we offer an overview (Table 11) of the key elements of Te Kotahitanga, some of which were new or refined in Phase 5. While we go on in the following sections to highlight seven particular factors as critical to the success of Te Kotahitanga, it is important to recognise that the whole is more than the sum of its parts, and that the complete model incorporates all the elements responsible for the accelerated and sustainable improvement achieved. As one lead facilitator said when asked what aspect of Te Kotahitanga she thought made the most difference, it was “the whole package”⁶⁶.

Table 11. Overview of elements of the Te Kotahitanga model for improvement

Te Kotahitanga approach	Examples of expertise/theoretical drivers/processes/tools/resources
<p>1. Māori and kaupapa Māori informing a new approach to educational improvement</p> <p>Revitalisation from a Māori world-view</p> <p>National and international indigenous leadership</p>	<p>Treaty of Waitangi a foundation.</p> <p>Māori leadership expertise in theory, research and development, what works evidence, and practice of accelerated educational improvement for Māori that is inclusive of all.</p> <p>Critical contribution by tribal leaders, kaumātua, and kuia to kaupapa Māori leadership underpinning and guiding project development.</p> <p>Safe and legitimate access to mātauranga Māori.</p> <p>Long-term commitment with an unrelenting focus on outcomes for Māori.</p> <p>Theoretical and evidential foundation for principle that culture is central to education⁶⁷.</p>
<p>2. Whakawhanaungatanga: kaupapa Māori approach to extended family-like relationships founded on care, responsibility and trust</p>	<p>Whakawhanaungatanga informs culturally responsive research, interactions and pedagogy, establishing relationships in ways that address power issues (e.g. in curriculum and pedagogy), power sharing, self-determination and accountability.</p> <p>Learning approaches are dialogic, built on involvement, connectedness and collaboration.</p> <p>Hui – structured, purposeful meetings build relational trust and drive collaborative improvement.</p> <p>Co-construction of meaning about experiences used as a tool for change.</p>
<p>3. Māori student voice drives responsive change process</p>	<p>Collaborative storying: respectful use of student and whānau voice provide educators and leaders with compelling access to Māori students' experience so they can identify how they may be unintentionally reproducing power imbalances in the classroom, school and wider system.</p> <p>Creation of dissonance (by comparing the perspectives of Māori students, and teachers and leaders) to identify deficit attributions and enable discursive repositioning to inform and enable shifts in practice. An inquiry and knowledge building orientation.</p> <p>Multiple publications of perspectives of Māori students.</p> <p>Rongohia te Hau survey tool developed as a smart tool for proactively and efficiently informing and monitoring progress through attention to Māori student voice.</p>
<p>4. Discursive repositioning from deficit to agentic positioning</p>	<p>Te Kotahitanga rejects positioning blame with Māori students and consistently shifts the focus to agentic solutions. Uses relatively non-confrontational approach of presenting stories of educational experiences from different groups. Uses evidence, carefully-sequenced, to challenge and seek solutions that focus on potential.</p>
<p>5. Theory-based intervention to build understanding, ownership, adaptive expertise, and fidelity of implementation where it matters</p>	<p>Deep engagement of participants with both the theory and the practice of change.</p> <p>Use of acronyms/mnemonics to build rapid working knowledge of underpinning theory and ownership of tools and processes by busy leaders, facilitators and teachers, recognising the constraints of working memory.</p> <p>Creates a shared language of practice. School leadership develops deep understanding and ownership of the theory of change.</p>
<p>6. Culturally responsive pedagogy of relations enables a shift in power that can drive ongoing improvement</p>	<p>Requires a deep shift in teacher–student power relations, so that teachers and students connect with one another as learners. This has ramifications across teaching practices: the cultural experiences of Māori students have legitimacy; Māori students can be more self determining; pedagogy is interactive and dialogic; knowledge is actively co-constructed; leaders, teachers and learners, whānau and wider communities are connected by a common vision of educational excellence in which Māori succeed as Māori. Marae-based hui whakarewa are critical to the change process.</p>

7. Capability building In-depth attention is paid to capability building during implementation	<p>Use of multiple strategies (e.g. hui, evidence, student voice, language, challenge, and constructive problem-solving conversations) to disrupt the status quo and create a paradigm change.</p> <p>Repeated, intensive opportunities for teachers, facilitators and leaders to develop knowledge and capability and to identify and solve problems that surface in the course of the cycle of hui, observations, feedback, co-construction meetings, shadow coaching and revitalisation opportunities, so that a culturally responsive pedagogy is developed and sustained.</p>
8. Focus is on culturally responsive pedagogy for Māori	<p>The Te Kotahitanga Effective Teaching Profile (ETP)</p> <p>Effective teachers of Māori create a culturally appropriate and responsive context for learning in the following observable ways:</p> <p>They positively and vehemently reject deficit theorising as a means of explaining Māori students' educational achievement levels.</p> <p>Teachers know and understand how to bring about change to Māori students' educational achievement and are professionally committed to doing so.</p> <p>Manaakitanga – They care for their students as culturally located human beings.</p> <p>Mana motuhake – They care for the performance of their students.</p> <p>Whakapiringatanga – They are able to create a secure, well-managed learning environment by incorporating routine pedagogical knowledge with pedagogical imagination.</p> <p>Wānanga – They are able to engage in effective teaching interactions with Māori students in Māori.</p> <p>Ako – They use strategies that promote effective teaching interactions and relationships with their students.</p> <p>Kotahitanga – They promote, monitor, and reflect on outcomes that lead to improvements in achievement for Māori.</p>
9. Prominence is given to use and development of facilitator expertise (Māori, Pākehā and Pasifika) to build capability	<p>Facilitators play a critical role in the deep change process by working directly with teachers and building leadership capability to embed the facilitation role in school processes.</p> <p>Facilitators in the project team proactively engage in inquiry and knowledge building through postgraduate study and masters and doctoral theses to deepen understanding and advance the knowledge base concerning effective change processes. New knowledge promotes new development.</p>
10. Core focus is on resourcing the improvement of teaching through structured, supported and monitored professional learning and development.	<p>The Te Kotahitanga professional development model</p> <p>See BES Case 7⁶⁸ for explanation of how the model exemplifies findings of the <i>Teacher Professional Learning and Development</i> BES. GEPRISP/PSIRPEG mnemonics make the PLD theory that underpins implementation of the model readily accessible.</p> <p>Co-construction meetings, structured observation, feedback and evaluation cycles, shadow coaching, support for use of what works evidence embedded in practice.</p> <p>GEPRISP: The Goal is to improve the educational achievement of Māori students; Examine Māori students' current Experiences; Challenge teacher Positioning; New Relationships; New Interactions; New Strategies; Plan for all this to happen</p> <p>PSIRPEG (pedagogical intervention model): Planning to incorporate discursive Strategies in the classroom that will change teachers' Interactions with students and vice versa, students' interactions with each other, with their learning and with the curriculum. As a result of these changes, Relationships between teachers and students will change. Different relationships will affirm or challenge existing teacher Positioning of Māori students' educational Experiences within the education system, realising the Goal of raising the achievement of Māori students.</p>

<p>11. A transformative leadership vision for deep change and equity in social conditions</p> <p>Priority given to support and capability building for school leadership, pedagogical leadership, distributed leadership and governance</p> <p>Transfer of ownership of the intervention to schools</p> <p>Growth, nurturing and leverage of Māori student leadership</p>	<p>A comprehensive programme for leadership vision and capability building, transfer of ownership, transitions management, and revitalisation (where leadership changes and/or competing priorities have jeopardised sustainability and ongoing improvement).</p> <p>Early strategic partnership work with Starpath (in Sue Copas' report on leadership⁶⁹) informed and was informed by the <i>School Leadership and Student Outcomes</i> BES. Analyses of what did and did not work in terms of school-funded sustainability (Phases 3 and 4) were used to strengthen the model of transfer of ownership.</p> <p>Phase 5 intensified leadership development at every level, starting with an ambitious vision for transformative change and underpinned by culturally responsive, organisational, institutional, relational and pedagogical change. This involved school leaders leading new discourses that targeted social transformation, for example, rethinking the impact of external realities and the impact of privilege (e.g. streaming practices) on the success of Māori students. Ongoing developments include training of boards of trustees, HODs, middle leaders; use of meetings, project team visits; support for leaders in the use of data for inquiry and action; new "smart tools" to support and leverage R & D and school, teacher, student and whānau leadership.</p>
<p>12. Creation and leveraging of educationally powerful connections</p>	<p>Culturally responsive pedagogy of relations takes transformative role in ensuring educationally powerful connections developed by and for Māori students through teaching, ako within both professional and community learning contexts, and proactive-leadership agenda.</p> <p>Informed by a series of high-impact interventions advanced within the Poutama Pounamu Research and Development Centre. High-impact interventions such as Tatari, Tautoko, Tauawhi/Tuhi Atu Tuhi Mai/Ripene Āwhina ki te Pānui Pukapuka Whānau and kaumātua funds of knowledge inform and are integrated into R & D process. In this way educationally powerful connections advanced through leverage of iwi and community resources.</p> <p>Tools developed to assist schools. (e.g. <i>Configuration Map: Connecting with Māori whānau and communities.</i>)</p>
<p>13. Iterative development of a powerful theory for scale up and sustainability</p> <p>Ngā Pae o te Maramatanga funded early development of knowledge of what works in taking reform to scale⁷⁰</p> <p>Iterative development of this model was also informed by early Phase 4 findings published in <i>Scaling up education reform: Addressing the politics of disparity</i>⁷¹</p>	<p>GPILSEO: an ongoing system improvement model</p> <p>Goal: Improving outcomes for Māori students.</p> <p>Pedagogy: A culturally responsive pedagogy of relations, developing a new pedagogy to depth.</p> <p>Institutions: Infrastructure, structures and embedded practices to support reform, organisational change.</p> <p>Leadership: Proactive and power-sharing; the role of leaders in spreading the reform.</p> <p>Spread: Inclusion of staff, parents and community in the reform; spread across schools and communities; educationally powerful connections and collaborations.</p> <p>Evidence: Use of data for formative and summative purposes; embedding an inquiry mindset; smart tools; use of what works and what makes a bigger difference evidence; a focus on reform at the system level.</p> <p>Ownership: Shift in reform ownership; changing school culture; resource allocation.</p> <p>Application of GPILSEO at the classroom, school and system level for sustainability.</p> <p>Use of a comparative analysis of high and low fidelity implementation (Phase 4) to inform new development and embed sustainability (Phase 5) and to reactivate and revitalise schools from earlier phases.</p>

4.2 Critical success factors: A BES Programme perspective

The core of the Te Kotahitanga model is a cultural pedagogy of relations that listens to and is informed by and responsive to Māori students. All the elements in Table 11 are built around this core and have a role in translating theory into an effective agenda for change.

Using a BES Programme perspective, we now highlight seven factors that were critical in enabling accelerated improvement for Māori through Te Kotahitanga Phase 5:

- Indigenous educational expertise driving culturally responsive provision for Māori
- Whakawhanaungatanga driving the “how” of improvement
- Effective teaching: developing culturally responsive pedagogy
- Effective professional development: building school-based expertise
- Transformative educational leadership: institutionalising deep change
- Educationally powerful connections based on a cultural pedagogy of relations
- Collaborative R & D cycles driving accelerated improvement to scale.

4.3 Indigenous education expertise driving culturally responsive provision for Māori

“It’s like the opposite of racism in this school” (student, see Table 8)

It is beyond the scope of this report to fully document the expertise that informed Te Kotahitanga or the complex, productive partnerships responsible for its implementation. But in this section I acknowledge the indigenous leaders who laid the foundation for the project and drove it through successive cycles of R & D to its culmination in the fifth and final phase: Professor Russell Bishop of the University of Waikato and Associate Professor Mere Berryman, originally of the Pounamu Research and Development Centre and latterly the University of Waikato. Berryman was Professional Development Director of Phase 5 and Director from 2012.

While the wider Te Kotahitanga project team included both Māori and non-Māori expertise, the fact that Māori educational expertise was leading theory and practice from a kaupapa Māori stance was critical to the success of the programme.

In making this point I recognise that I am an outsider and a non-Māori approaching evidence concerning a project that has sought to be responsive to “the ways of knowing of the people most affected by educational disparities” and “has built upon Māori aspirations, preferences and practices for educational reform.”⁷² The authoritative expositions and explanations of the wider project are to be found in the more than 250 formal reports, papers, and books^x that have been written by Bishop, Berryman and others with designated leadership roles. See for example, Bishop’s *Freeing Ourselves*⁷³ for his account of how the Te Kotahitanga theory and model were developed over 25 years, or Bishop, O’Sullivan and Berryman’s *Scaling Up Education Reform: Addressing the Politics of Disparity* (referred to earlier in this report) for the significance of the GPILSEO model for spreading deep and systemic reform for indigenous students, or Bishop, Berryman and Wearmouth’s recent *Te Kotahitanga: Towards effective education reform for indigenous and other minoritised students*⁷⁴ for a discussion of the implementation challenges encountered in Phases 3 and 4 – a work that considerably advances our theoretical understanding of how to optimise implementation effectiveness, sustainability, and reach.

^x These collectively constitute a knowledge base that is widely recognised as a resource for educational reform, both in New Zealand and internationally. New Zealand educators can access many of these texts through The Ministry of Education library. Email requests to libraryrequests@minedu.govt.nz.

BES findings clearly identify the centrality of culture in education⁷⁵ – a point that is simply and elegantly made by Bishop and Glynn in the title of their book, *Culture Counts*⁷⁶. The Te Kotahitanga model views culture as a resource and deliberately uses it to accelerate progress for Māori students while also benefitting non-Māori. This can be seen, for example, in the use of Māori student voice to inform the model and evaluate progress. All evidence from the project reinforces our finding that it takes Māori educational expertise to lead culturally responsive, accelerated change for Māori.

But while Māori leadership is necessary, it is not sufficient. BES evaluations of numerous interventions that have not led to accelerated improvement in valued outcomes for Māori make this abundantly clear. For this reason I want to now highlight aspects of the expertise that the co-directors brought to the Phase 5 implementation that is the focus of this report.

Bishop and Berryman both repeatedly acknowledge in their writings that they have built on the work of others, on a body of mātauranga Māori and kaupapa Māori research, theory, evidence and action that has challenged educational inequity in New Zealand and provided a basis for decolonising, reclaiming and revitalising Māori education in both Māori- and English-medium provision. They cite for example the work of Durie⁷⁷, Hohepa et al.⁷⁸, Mead⁷⁹, Pere⁸⁰, Rangihau⁸¹, Hingangaroa Smith⁸², Tuhiwai Smith⁸³, and Walker⁸⁴. This body of Māori educational research is now so substantial that the 2004 Performance-Based Research Fund (PBRF) evaluation identified it as an area of national strength.⁸⁵ The relevance of this research is not confined to New Zealand. For example, in *Culturally Responsive and Socially Responsible Pedagogies* (Berryman, SooHoo and Nevin)⁸⁶, kaupapa Māori methodology is used to highlight the importance of indigenous leadership in a range of other contexts.

The culturally responsive pedagogy of relations that is the core of Te Kotahitanga's theory of action involves changed relationships between Māori and non-Māori, cultural repositioning at every level, and the transformation of educational practices across the curriculum. Bishop first set out the theoretical foundation of this pedagogy in his 1995 doctoral study on collaborative storying, going on to extrapolate in *Culture counts: Changing power relations in education*⁸⁷ the implications for power relations in education and for actioning the agreements in the Treaty of Waitangi. In both his doctoral study and subsequent book he explored the use of student voice to inform schooling improvement.

Bishop also drew systematically on evidence from a wide body of research about educational change. As he explains,

*[my theorising] was informed by my experiences of working in Te Kotahitanga of course, but primarily it was developed from my interaction with the (duly acknowledged) literature on the subject in order to develop workable hypotheses. This was no simple task and it occupied most of my time from 2001 to 2012.*⁸⁸

Bishop's extensive published writing^{xi} includes *Culture Speaks*⁸⁹ (with Berryman), a Te Kotahitanga focus in the 2008 *Handbook of Critical and Indigenous Methodologies* (with co-editor Linda Tuhiwai Smith)⁹⁰, and contributions to other prestigious publications such as the *International Handbook of Leadership for Learning*⁹¹ and the *Teacher Education Yearbook*⁹².

In his ground-breaking writing with Shields⁹³, he challenges the effectiveness of approaches such as antiracism and multiculturalism in overcoming deeply embedded disparities, and reinforces his argument that without radical cultural repositioning there can be no substantive positive educational change for indigenous groups:

Antiracist pedagogy fails because it does not explicitly require educators to confront their own complicity in the continuing educational disparities of minoritised youth. We posit that unless educators are willing to confront their own discursive positioning shaped by decades, often centuries, of societal and cultural assumptions, norms, and practices, the deeper structures of disparity and inequality in our education systems will not change. As

^{xi} 8 books, 80 publications, and over 100 keynote addresses and presentations

educators, it is critical to understand how pervasive images of unequal ability, dysfunctional behaviour, or inappropriate outcomes have shaped the ways in which we interact with and teach students from minoritised groups. Educators who recognize the inequitable power arrangements of the status quo begin to acknowledge that instead of finding ways to change the learners, the pedagogical context, or even the institution itself, they must start with themselves. They no longer adopt programs that attempt to address the learning needs of individuals or groups of students in ways that do little more than make them feel better about themselves ...

Bishop's unrelenting challenge to New Zealand educators and policy makers has been to end the practice of explaining disparities through the use of deficit theories that absolve teachers, schools, Ministry, and other decision-makers of responsibility and deny them understanding that would enable them to approach the issues constructively. Indigenous expertise necessarily has a critical role in this process of discursive repositioning. See for example Berryman and Bishop (2013)⁹⁴.

The final reports⁹⁵ for each of the five phases of Te Kotahitanga provide the authoritative record of the project's evolution. The Phase 1 report explains that the "project was undertaken by a partnership of researchers from the Māori Education and Research Institute (MERI) in the School of Education, University of Waikato and the research whānau of the Poutama Pounamu Research and Development Centre of Tauranga" in which indigenous elders had an integral role. As described by the report, Russell Bishop developed and managed the project assisted by Cathy Richardson and Sarah-Jane Tiakiwai of MERI, and Mere Berryman (Director of Poutama Pounamu) and Kaa O'Brien worked on all aspects of the project.

Poutama Pounamu's research whānau approach, led by Berryman, gave the project access to another significant source of indigenous expertise, enabling it to benefit from the active guidance of kaumātua such as Rangiwhakaehu Walker, Mate Reweti, and Morehu Ngatoko.

In a 2006 acknowledgment, Bishop and Berryman wrote:

*We wish to thank our kuia whakaruruhau, Rangiwhakaehu Walker and Mate Reweti for their cultural guidance, support and understandings. These leaders maintain our research group's connection to the aspirations of Māori people for improving educational opportunities and outcomes for Māori students, as well as taking a full part in all of our professional development endeavours.*⁹⁶

Distinguished Waikato-Tanui kaumātua Koroneihana Cooper QSM, born and bred into Kīngitanga, brought huge indigenous expertise, knowledge and influence to his long-term leadership role in the project. The various Phase 5 milestones track how Koroneihana's proactive contribution in a wide range of roles was to prove critical for the change process.

Early reports from the Saskatchewan Ministry of Education⁹⁷ about a reform modelled on Te Kotahitanga suggest that they too have found involving indigenous elders right from the outset to be an important change strategy.

Accelerated improvement requires the integration of theory and practice.⁹⁸ But policy and practice often underrate expertise in the theory of change, not realising that it is critical for building the adaptive expertise that is a key to sustainable reform. And academic reward systems often underrate expertise in the practice (the "how") of accelerated change, preferring innovation to improvement and failing to recognise the significance of theoretical advances in applied research.⁹⁹ The accelerated improvement achieved by Te Kotahitanga Phase 5 needs to be seen as the culmination of successive cycles in which theory and practice were integrated to advance valued outcomes.

I see Berryman's experience in leading the collaborative work of the research whānau in the Poutama Pounamu Research and Development Centre¹⁰⁰ as a significant factor in the success of Te Kotahitanga, especially Phase 5. For more than two decades Poutama Pounamu specialised in culturally responsive, high-impact interventions in literacy, behaviour, learning and inclusion that leveraged school-whānau connections in both English- and Māori-medium contexts to enhance

educational success.¹⁰¹ A meta-analysis of 37 national and international studies that informed the *School Leadership and Student Outcomes* BES found five of the Centre's literacy interventions to be in the highest-impact category of school-home interventions.

One of these was Ripene Āwhina ki te Pānui Pukapuka (RĀPP), an audio-assisted reading tool designed to accelerate students' literacy in te reo Māori. In 2012 it was selected for inclusion as a promising practice in a UNESCO Education for All publication.¹⁰² The previous year, Professor Sir Mason Durie wrote:

*Given the relatively low levels of Māori educational achievement, the importance of RĀPP is magnified, not only as a vehicle for revitalisation of te reo Māori, but equally important as a catalyst for engagement in education and for building whānau cultural security.*¹⁰³

Berryman acknowledges the invaluable koha that Professor Ted Glynn brought to this work in the form of his experience in developing high-impact interventions involving school-family collaboration in English-medium contexts. Glynn, a Pākehā educator and researcher, acknowledges in turn what he has learned as “over 21 years from collaborative research partnerships with Māori research colleagues, teachers and kaumātua.”¹⁰⁴

Bishop and Berryman both point out that pedagogical interventions alone do not produce sustainable, institutional change, but this internationally leading work demonstrates that they can provide rocket fuel for accelerated improvement. For example, a Te Kotahitanga Phase 5 pilot intervention used Tatari Tautoko Tauawhi / Pause Prompt Praise with students who had transitioned from Māori- to English-medium schools. In just one year 15 out of 17 male students gained a mean 3.8 years in reading age in English.¹⁰⁵

Berryman also brought with her to Te Kotahitanga Poutama Pounamu's mahi tahi collaborative approach to forging relationships of trust and respect when working across te ao Pākehā and te ao Māori¹⁰⁶ and a focus on the use of inclusive practices for students with special needs, coupled with a rejection of the deficit theorising that often goes hand-in-hand with behavioural interventions.¹⁰⁷ Her change leadership skills based on whakawhanaungatanga principles (evident in the active involvement of Māori elders from the outset) and her commitment to an ongoing improvement kaupapa were major factors that enabled the effective integration of theory and practice.

Incorporating Berryman's experience in Poutama Pounamu, a reciprocal (tuakana teina) approach to professional learning was put in place, in which the researchers (1st order professional development) refined the intervention to ensure its impact and then mentored facilitators and co-ordinators (2nd order professional development) until they were able to achieve comparable gains for students. Through R & D involving the whole team, Bishop and Berryman refined this into a comprehensive programme of professional learning for facilitators and teachers.¹⁰⁸ When reviewing studies for the *Teacher Professional Learning and Development* BES, Timperley et al. found that such deliberative capability building linked to outcomes and integrating whānau and community was disappointingly rare.

Berryman has published extensively including in *Teaching and Teacher Education*, *Teacher Development*, the *Journal of Māori and Pacific Development*, the *Canadian Journal of Native Education* and the *International Journal of Bilingual Education and Bilingualism*. In *Culturally Responsive Methodologies*¹⁰⁹ she worked with indigenous contributors from Canada, North America and New Zealand to explain how, under indigenous leadership, collaborative R & D can advance transformative, theory-based praxis that shifts long-standing inequities.

In *Culturally Responsive Pedagogies*, Berryman and her co-editors single out for attention humility – a theme rarely found in academic writing – in this way exemplifying the whakataukī, “Ka tika a muri, ka tika a mua, ka rere pai ngā āhuatanga katoa” (“If the back is in order and the front is in order, all will

go well”^{xii,110}. Berryman attributes to kaumatua Mate Reweti the insight that mana^{xiii} is a crucial component of manaakitanga (hospitality, kindness, generosity, support; the process of showing respect, generosity and care for others).

*What she did for me/us was to deconstruct the term manaakitanga into three words, the first being mana, the second being aki from the term akiaki to urge onwards, the term tānga can be literally translated as rows of people, I understand the macron over the a (ā) makes it plural. She helped to show me that the metaphor I grew up with of hospitality and care went a lot deeper when you considered each component of the word but it was certainly about my responsibility to support a person to develop their own authority, their own mana and not support people to a space of dependency or just helping them to feel good about themselves.*¹¹¹

Berryman draws on indigenous kaupapa to explain that care for others in change processes necessarily involves respecting their mana:

*A more inclusive approach for an already marginalised group such as Māori, especially when there is a high level of disability and increased potential for children as well as their parents to be further marginalised, is respectful, relational collaboration.*¹¹²

With more time at her disposal as Professional Development Director and project Co-Director of Phase 5, Berryman led a push for reflective interrogation to identify areas for improvement in practice. To enable greater local focus and responsiveness, she encouraged the iterative development of smart tools for tracking student voice (see the Rongohia te Hau survey tool). She also put increased emphasis on capability building, both in the team and with principals and middle leaders, and on strengthening the team’s understanding that, for substantive change to occur for students, the adults involved must first reject deficit thinking and reposition themselves culturally. For example, the team identified and began to address situations where in-school facilitator practices were becoming counterproductive and promoting the very power imbalances that Te Kotahitanga was designed to shift.

Phase 5 amply demonstrated the crucial role of indigenous expertise in capability building – the accelerated improvement achieved could never have happened if facilitators had been unable to model co-construction or exemplify the theory in practice. Recognising the importance of growing this pool of scarce expertise, Bishop and Berryman were proactive in building both the theoretical understanding and practical skills of project team members. This included encouraging Te Kotahitanga team members to undertake postgraduate studies, and extended to personally supervising those studies.

In a foreword for the *Waikato Journal of Education*’s special issue on culturally responsive pedagogies as transformative praxis, Berryman wrote:

*It is clear if we are serious about developing a high-performing education system where disparities between Māori and non-Māori no longer exist, the repositioning of power to create metaphorical and literal spaces for Māori to determine their own ‘values, identity, language and culture’ is the critical challenge.*¹¹³

This repositioning of power requires the development of a critical mass of indigenous expertise and the education system must enable this development.

In her paper, *My research story: Contributing to a New Zealand education story for Māori*¹¹⁴, Phase 5 co-ordinator Therese Ford spells out why Te Kotahitanga was so important for many high-achieving Māori students: “We lost our ancestral name, the ability to speak our ancestral language and our right to bring our Māori cultural experiences and knowledge into our education. Many of us lost our ‘Māori-

^{xii} If the back is in order; and the front is in order; all will go well- referring to co-operation and the importance of all roles played on the marae.

^{xiii} “Integrity, charisma, prestige, formal jurisdiction” (Reed Dictionary of Modern Māori, 1997).

selves’.” She traces the journey through assimilation, integration and biculturalism to *Ka Hikitia*: “It is time to step up the performance of the education system to ensure Māori are enjoying success as Māori.”

Not only is indigenous expertise critical for developing Māori expertise, it is also critical for developing non-Māori expertise. Here again, Te Kotahitanga’s impact has been very significant, as Bishop and Berryman, in presentations, papers and books have given countless non-Māori educators and policy makers access to experiences, ideas and understandings that have revealed the depth of discursive repositioning required of them if they are to be effective for Māori. For an example of this impact see Phase 5 co-ordinator Dawn Lawrence’s postgraduate study, *In response to the challenge: The role of non-Māori teachers in addressing the educational disparities for Māori*.¹¹⁵

Recent publications by Berryman have tracked the impact of changes introduced in the Phase 5 implementation of Te Kotahitanga. For example, in a UK series on advances in educational programme evaluation¹¹⁶ she explains how deliberative co-construction increased the effectiveness of a cultural pedagogy of relations, and how the Rongohia te Hau tool has enabled teachers to rapidly access, compare and respond to student, teacher, family, whānau and Māori community voice. Again she reiterates and reinforces this core theme: it is the indigenous expertise of the students themselves that must drive culturally responsive provision for Māori.

4.4 Whakawhanaungatanga driving the “how” of improvement

The Maori students we spoke to in 2001, 2005, and 2007 spoke at length about the importance of whakawhanaungatanga and whanaungatanga, that is, the process of establishing relationships and the quality of the relationships that are established for their engagement with learning and eventual achievement.

Similarly, the teachers who positioned themselves within the relational discourse in 2001 and 2005 emphasised the importance of relationships at all levels of the project: within the classroom, between facilitators and themselves, and also between themselves and their management, parents, and community members.

Bishop, 2009¹¹⁷

In a broad sense, whakawhanaungatanga is about building culturally responsive relationships of trust and respect to advance a kaupapa. Berryman explains the cultural foundation for whakawhanaungatanga in te ao Māori:

*Whakawhanaungatanga therefore is the process of establishing links, making connections and relating to the people one meets by identifying in culturally appropriate ways, whakapapa linkages, past heritages, common respect for places and landscape features, other relationships, or points of engagement.*¹¹⁸

In 1995 Bishop explained in his doctoral thesis the theoretical foundation for this approach to educational research, contrasting a whakawhanaungatanga approach with western traditions in which research is used to describe or identify barriers without necessarily serving an improvement agenda.

In this sense, whanaungatanga means that groups ... are constituted as if they were ... an extended family ... To use the term whanau, literally or metaphorically, is to identify a series of rights and responsibilities, commitments and obligations, and supports that are fundamental to the collectivity.

*What is central to developing research (and classroom) relationships ... is that the whanau is a location for communication, for sharing outcomes, and for constructing shared common understandings and meanings ... it is the context within which activities can take place effectively ... individuals have responsibilities to care for and to nurture other members of the group, while still adhering to the kaupapa (agenda: purpose) of the group.*¹¹⁹

Berryman described the transformative nature of whakawhanaungatanga in bringing about educational change for Māori.¹²⁰

Shift from	Shift to
Learning about a Māori world-view	Trusting and working within a Māori world-view

In Berryman et al. (2013)¹²¹, Glynn explains from a Pākehā perspective the power of whakawhanaungatanga (for example, through pōwhiri) to create respectful re/positioning and new opportunities and spaces for deep change.

Bishop (2013) has described how the whakawhanaungatanga theory of change is a fundamental challenge to

*theories positioned within the discourses of individual or cultural deficiencies that assign blame to individual students' lack of motivation, character defects, or their home's lack of scholastic preparation or support ... It is clear from what the students told us ... that the quality of the relationships that are established in classrooms affects their attendance, learning, and achievement. This finding means that, while we cannot ignore the impact of structural impediments, such as socially constructed impoverishment, we cannot allow this analysis to disempower teachers from action. Teacher action is central to educational reform, for, as Elmore 2007 attests, the key to change is teacher action supported by responsive structural reform.*¹²²

For teachers and leaders, Te Kotahitanga removed a debilitating focus on deficits and barriers to Māori success and replaced it with agentic positioning. Central to this repositioning was whakawhanaungatanga, which involves establishing relationships in ways that address power sharing and power issues in interactions, curriculum, and pedagogy.

Berryman demonstrated the power of whanaungatanga for enabling ako (reciprocal learning), kotahitanga (unity of purpose), and other reciprocal benefits that accelerate educational improvement, in a series of interventions that proved high-impact for Māori in both Māori- and English-medium schools. These interventions include Tātari Tautoko Tauawhi (Pause, Prompt, Praise) and Tuhi Atu Tuhi Mai (Responsive Writing), which have been forged through ongoing R & D with kaumātua, whānau and teachers and which, in 2012 and 2013, were being trialled in and adapted for use in Phase 5 schools.¹²³

In the Phase 5 intervention plan, whanaungatanga was the major focus for terms 3 and 4 of year 0 (2009), the year before the intervention proper. Year 0 was a time to develop the R & D team and initiate and build relationships with schools through leadership hui, engaging principals, boards of trustee chairs, senior management teams and middle leaders in: understanding the kaupapa, owning the vision, setting a new goal for the school, establishing effective data management systems, selecting key personnel, and building relationships between the professional developers and school-based facilitation teams. The theory of action said that the school should be up and running, with its Te Kotahitanga goal, vision and systems in place, from day 1 of the new school year. Funding was not provided for such proactive planning, but the project team were able to make it happen with new Phase 5 schools because they were concurrently working with schools in the third year of Phase 4.

One hypothesis for the increase in the proportion of year 13 Māori in the Phase 5 schools gaining NCEA level 3 in 2009 (up from 26% to 32.3%) is that this early relationship building and focus on Māori achievement was in itself enough to have an impact on senior Māori students.

Whakawhanaungatanga provided the foundation for and drove the hui whakarewa at which Te Kotahitanga was launched in a school community.^{xiv}

Whakawhanaungatanga was also a core element in the Te Kotahitanga Effective Teaching Profile (ETP) and as such was the subject of careful observation and evidence gathering to inform change. Using the ETP observation sheet, an observer recorded the frequency with which the teacher used each of six different strategies that involved integrating whanaungatanga into teaching and learning.

In a recent article in the American Educational Research Journal, *The Centrality of Relationships for Pedagogy: The Whanaungatanga Thesis*, Bishop, Ladwig and Berryman revisited this foundation of Te Kotahitanga, analysing the empirical evidence for the impact of whakawhanaungatanga on the practice of 1263 teachers in 31 Te Kotahitanga schools in 2009. In the following excerpt concepts are capitalised because they are formal categories:

*As Whanaungatanga increases, the probability of high cognitive demand increases ... when the level of Whanaungatanga was mid-range or higher the lowest levels of Engagement disappeared ... The exponential growth in the likelihood of high levels of Discursive Practice, as the level of Whanaungatanga increases, simply underscores the idea that Whanaungatanga truly is foundational, and necessary for effectively teaching Māori students.*¹²⁴

Whakawhanaungatanga informed the Te Kotahitanga approach to change and collaboration at all levels: classroom, school, project, research institution, policy, and system. Whakawhanaungatanga principles were a resource for resolving the tensions that inevitably arose in an initiative that demanded deep change in a system that was not delivering for Māori. As the *School Leadership and Student Outcomes* BES explains, building relational trust in education requires:

*respect for others, personal regard for others, competence in role, and personal integrity. Establishing relational trust means modelling appropriate behaviour, following through when expectations are not met, ensuring that talk and action are consistent with each other, and challenging dysfunctional attitudes and behaviours.*¹²⁵

The same BES finds open-to-learning conversations, learning community, and constructive problem talk to be extremely important in a school. These resonate with the cultural re/positioning, ako (reciprocal learning), manaakitanga and mana motuhake (relationships of trust and respect), mahi tahi (collaborative work), moral purpose and accountability that are all part of a whakawhanaungatanga approach¹²⁶.

While whakawhanaungatanga was crucial for the cultural re/positioning and responsive engagement that Te Kotahitanga drove, it was not sufficient. If used as a cultural short cut to educational acceleration, a ceremonial nicety, an inoculation for caring teachers, or a cheaper policy option, it will jeopardise opportunities for deep improvement or undermine them when the walk does not follow the talk. Such quick fixes risk profound harm to Māori students.

Whanaungatanga, while foundational, is not in itself sufficient to enable them (Māori students) to fully engage with learning and to achieve their full potential.

Indeed (Māori students) told us of the dangers of teachers who mistakenly thought that developing Whanaungatanga was enough. In these people's classrooms they felt patronised, belittled and left adrift.

Bishop, Ladwig & Berryman, 2013¹²⁷

^{xiv} The Kia Eke Panuku e-book modules 6A and 6B explain this hui in a very accessible format, emphasising that whanaungatanga is the essential beginning of the hui process.

4.5 Effective teaching: Developing culturally responsive pedagogy

... most educational reforms never reach, much less influence, long-standing patterns of teaching practice, and are therefore largely pointless if their intention is to improve student learning.

Elmore, 1996¹²⁸

Te Kotahitanga has done this. If Te Kotahitanga wasn't here we would still be prescriptive ... [it's] the difference between classical physics and quantum physics ...

Te Kotahitanga teacher

It's not like they blame you. They blame themselves. They take it personally that it is their fault. They think they are teaching you badly.

Phase 5 Te Kotahitanga student

Professor Richard Elmore of Harvard University explains that a “connection between the big ideas and the fine grain of practice in the core of schooling is a fundamental precondition for any change in practice.” In other words, for any initiative to have impact on valued student outcomes, theory must reach down into classroom practice. This self-evident truth is reflected in a recurrent finding across the BESs that policy interventions that focus on leaders or leadership without a corresponding focus on pedagogical improvement have little or no effect on learning.¹²⁹

Te Kotahitanga was unrelenting in its efforts to make this connection, drawing on the big ideas (for example, a “culturally responsive pedagogy of relations”) and connecting them to the fine grain of practice through the use of evidence, observation, reflection and co-construction. A national survey by NZPPTA found that teachers and principals valued Te Kotahitanga precisely because it did connect the big ideas to classroom practice.

Rotorua Boys' High School principal Chris Ginter has no doubt that the crucial factor behind the accelerated improvement in Māori achievement in his school was the pedagogical change forged by Te Kotahitanga:

*It was not that we had suddenly discovered a gap in learning outcomes between Māori and non-Māori achievers, we already knew that was the case and we were working on it. It was not that we as a school had not given considerable thought to what was culturally appropriate for the students of our school. It was more a case that we had explored and implemented a range of interventions and strategies that had made good impact, but in themselves were not enough to generate the equity in outcomes or the 'shift' that we were seeking as a school ... we needed something that dug deeper at the cause of this disparity and we knew the solution to a large extent rested with our teachers and our need to work with them and all our non-teaching staff to make them better able to successfully teach our Māori learners. We needed to align pedagogy with those changes detailed above. We needed, quite simply, to bring about pedagogical change ... Te Kotahitanga has allowed us to undertake the best school-wide professional development programme that I have seen in my career.*¹³⁰

Critical to Te Kotahitanga's pedagogical change process was the Effective Teaching Profile (ETP), a cross-curricular tool designed to support the development of high-impact, culturally responsive pedagogies. As discussed earlier, an iterative R & D process refined the tool's fitness-for-purpose and assured its validity. Ladwig's independent analysis (see Figure 8¹³¹) of Phase 3 data showed that this tool powerfully differentiated between teaching practice that was less and more effective – a noteworthy achievement, given that countless classroom observation tools have been found to have little or no relationship to student achievement.

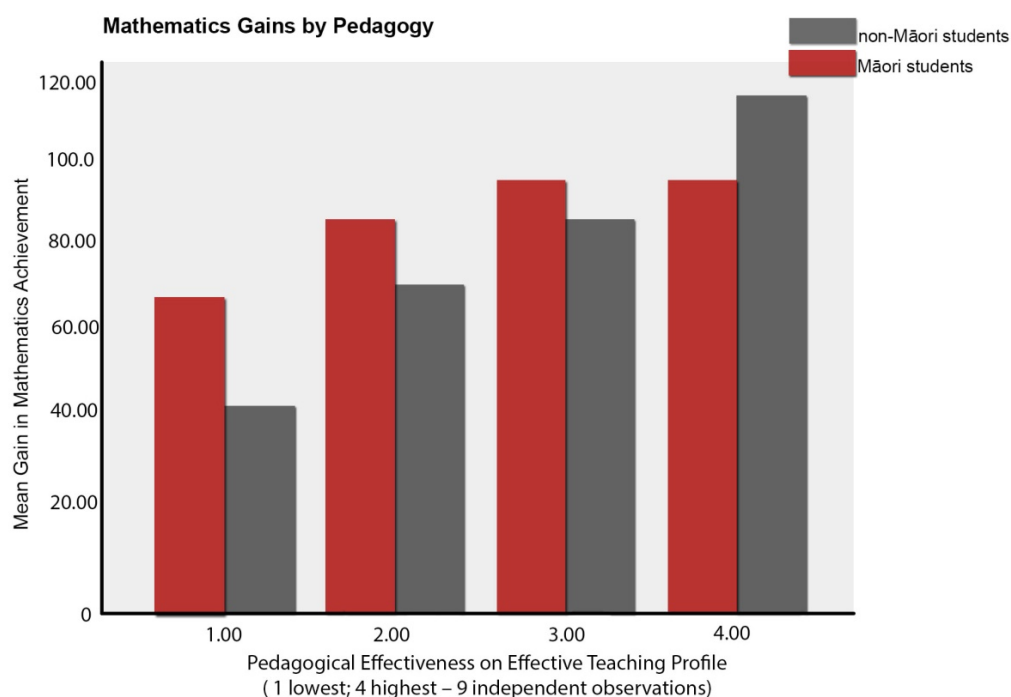


Figure 8. The relationship between teacher effectiveness as measured by the ETP and student achievement in mathematics

With the ETP as a guide and accompanying development opportunities, observations, co-construction meetings, shadow coaching, and other Te Kotahitanga processes, teachers in the programme were able to incrementally improve their practice. Daniel Murfitt^{xv} provides a principal's perspective on the crucial role played by the ETP in enabling deep-seated change in classroom teaching:

The development of the Effective Teaching Profile and the tools to evaluate its implementation in the classroom, have supported the greatest change for teachers and Māori students. The ETP has given teachers a framework for evaluating teacher/student interactions (relationships) which directly link to improved learning and achievement outcomes for Māori students. Before utilising these tools (and the training which goes along with it) relationships were always seen as important, but not something that could change through professional development. They were often seen as part of the teachers' personality and not part of something which could be evaluated and developed (in a professional development sense).

Te Kotahitanga required a shift from traditional, transmission-type pedagogies to a more discursive pedagogy that actively involved students in dialogue, co-constructing their own learning within a collaborative peer community. Such a shift is vital, not only to counter the bullying and exclusion that

^{xv} Principal of William Colenso College, a Phase 5 school.

fosters racism in peer interactions¹³² but also to take advantage of the longstanding evidence that, when used effectively, discursive and collaborative pedagogies enable accelerated achievement.

Hattie observes that meta-analytic studies have found different learning approaches to have markedly different effects: cooperative learning (0.53, 0.54, 0.59), competitive learning (0.36), and individualised learning (0.23).¹³³ To put these effect sizes into perspective, a year of business-as-usual teaching has an effect of 0.35 as measured by asTTle.¹³⁴

Slavin notes that, in the face of compelling evidence for the effectiveness of cooperative learning approaches, there has been a singular failure to adopt them into practice.

*In comparison with schooling practices that are often supported by governments – such as tutoring, technology use and school restructuring – co-operative learning is relatively inexpensive and easily adopted. Yet, thirty years after much of the foundational research was completed, it remains at the edge of school policy. This does not have to remain the case: as governments come to support the larger concept of evidence-based reform, the strong evidence base for co-operative learning may lead to a greater focus on this set of approaches at the core of instructional practice. In the learning environments of the 21st century, co-operative learning should play a central role.*¹³⁵

Most parents probably imagine that one-to-one teaching is the ideal, and certainly (as supplementary tutoring shows), a class of one can be very effective. But given the time constraints in a classroom, there is only so much that teachers can do to individualise learning, and besides, much learning requires collaboration, so the alternative is to focus instead, as Te Kotahitanga did, on optimising the classroom as a community of learners. Unfortunately the belief that individualised learning is the way to go is so pervasive that it can be hard for those advocating developing capability in discursive pedagogies to get their voices heard.

Te Kotahitanga demonstrated that discursive pedagogies have the potential to intensify learning supports and grow the capabilities students need to be confident learners:

The teachers that I had in year 9 and 10 [at a Te Kotahitanga school] were some of the best teachers that I have ever had ... For me personally the group orientated kind of working was more helpful for me because I didn't do too well in the subjects where it was just write on the whiteboard and learn it you know, repeat it and what not ... In terms of the relationships with teachers who taught that way I definitely felt stronger relationships with them ... they were using these different ways of teaching. Like someone put you in groups; some would even get you outside doing practical experiments with things like maths and like, that's not common in most classrooms ... I think the problem solving aspect of it ... because it was so teamwork based and it gave you an idea of just how to work with others, to come to a solution, that kind of thing. The [university] degree that I am in now, I would say 30% of the work that I have done has been with groups and I know that when I chose my degree I thought that I might have the skills going into it to be successful ... doing that subject, and that's the same thing for going into the job that I have taken. I applied for it because I knew it was in auditing but I knew that a lot of it was teamwork based and so working with others to solve a problem.

Hemi, Te Kotahitanga graduate

The business community wants graduates who can solve problems through cooperation and collaboration. Transmission pedagogies are ineffective in teaching these skills; high-impact discursive pedagogies that are effective have been developed through knowledgeable R & D, but they are harder to put in place.

Discursive pedagogies are not the only type of valuable activity in classrooms, but decades of sound evidence demonstrate that such teaching can better serve students, teachers and the community in terms of building both social cohesion and the cognitive capabilities of students. The need to accelerate progress for Māori (and, indeed, all) learners means that we must acquire greater

expertise in discursive pedagogies. Te Kotahitanga has shown just how we might do this, in that most demanding of challenges – a cross-curricular intervention.

4.6 Effective professional development: Building school-based expertise

Effective professional development is the lever that connects the big pedagogical ideas and the fine grain of practice.

The *School Leadership and Student Outcomes* BES¹³⁶ found promotion of and participation in professional learning to be by far the most important leadership activities for accelerating achievement – so important that their impact was twice that of any other leadership activity. Yet policymakers typically view teacher professional development as a poor investment, perhaps because ineffective models have been the norm. This perception needs to change: research evidence about system change in a variety of jurisdictions confirms that professional development of leaders and teachers is the single most critical policy lever for accelerating improvement. Whatever other lever is activated, effective professional development will be needed if it is to have a positive impact on students' learning and lives.

Te Kotahitanga was the only New Zealand cross-curricular intervention to meet the criteria for inclusion in the *Teacher Professional Learning and Development* BES¹³⁷, despite substantial policy investment in previous improvement initiatives. Table 12 lists the major findings from this BES so that it can be seen how completely they are integrated into the Te Kotahitanga professional development model.

Table 12. Key findings of the Teacher Professional Learning and Development BES

Te Kaupapa Whakaako, Whakapakari Kaiako Teacher Professional Learning and Development	Te Kotahitanga Phase 5
Kia arotahia ngā hua ākongā uara nui Focus on valued student outcomes	✓ (focus on Māori succeeding as Māori)
Ko ngā pū o waho hei ārahi i ngā pū o roto Engage knowledgeable expertise external to participating teachers to challenge assumptions and develop new knowledge and skills	✓
Kia tika te horopaki, ka whaihua ake te whakapakari Use context-specific approaches to develop teacher knowledge, skills, and adaptive expertise in high-impact pedagogies	✓
Ngā taputapu ngaio – whiria, mahia Select, develop, and use smart tools	✓
Rau te ako, rau te mahi, rau te hua Arrange multiple opportunities for teachers to learn and apply information	✓
Tuia te mātauranga me te kawenga, e puta ai he ahunga hou Integrate theory and practice to enable deep change	✓
Hei pou whirinaki, hei rākau whakapātari Create conditions of trust and challenge	✓
Me ohu te whai i ngā akoranga hou Provide teachers with opportunities to process new learning with others	✓
Hono torokaha, ako torokaha Enable teachers to activate educationally powerful connections	✓
Tā te rangatira mahi Ensure active involvement of wider school-based leadership in leading, organising, and participating in learning opportunities	✓
Me manaaki te ara ako i te kaiako Develop approaches that are responsive to teachers' learning processes and do not bypass teachers' existing theories	✓
Ko te uiui hei kawe i a koe ki mua Maintain momentum through self-regulated inquiry	✓
Te aromatawai i roto i ngā uiuinga kaiako Use assessment for professional inquiry	✓
Me pounga waihoe, kia nui ake te whaihua ki ngā ākongā rerekura (katoa) Use a collaborative inquiry and knowledge-building approach, aligning conditions within and beyond the classroom to optimise valued outcomes for diverse (all) learners	✓ Treaty of Waitangi foundation

Table 11 (page 33) summarises the elements of the Te Kotahitanga improvement model. Through five phases and iterative R & D cycles, each was refined and strengthened to serve a scale-up agenda: Māori student voice driving change, deliberative use of hui whakarewa, theoretical tools, structured observation processes, feedback, shadow coaching and co-construction meetings, smart tools, and ongoing evaluation cycles.

Professional development coordinator Iti Joyce found that although the change process made teachers feel vulnerable, it was experienced as strongly supportive:

Teacher Z: ... starting with the hui which was a very uplifting experience and coming into the classroom, full of ideas, and inspiration and hopes and aspirations and just crashing in the first term. Then being picked up and supported by the Te Kotahitanga facilitators and my peers and colleagues.

Teacher C: Having someone actually help you was a new experience for me.

Teacher D: You're vulnerable to other people telling you what you can do to improve and that vulnerability makes you change, you can't argue with anyone anymore because evidence is evidence ... personally for me, it was the first time anyone had ever told me what I was doing well and what I wasn't doing well. I was able to understand myself. I had kind of cruised, had cool relationships, and hadn't actually thought about the pedagogy behind what I was doing.

*Teacher D: I remember being observed and having feedback. You didn't really look forward to it. And, at the end you loved it and it became something you did look forward to because the end result was worthwhile ...*¹³⁸

The Te Kotahitanga model makes the “how” of improvement explicit and, while challenging teachers to make deep changes in their practice, gives priority to engaging with their existing theories and proceeding at a pace that is respectful of and responsive to their learning processes.

The BESs demonstrate that all too often it is assumed that an intervention will be effective, instead of subjecting its effectiveness to empirical inquiry. But prescriptive approaches and untested assumptions by facilitators and researchers can have small or even negative effects on teacher practice.¹³⁹ This is why the evidence base for the effectiveness of each aspect of Te Kotahitanga professional development is so important. For example, there is now sound evidence for the impact of shadow coaching and co-construction:

Teacher A: There were two parts. One was the observations, feedback sessions, co-construction meetings and shadow coaching. [The second part] Shadow coaching was really intense because we were back in the classroom for at least an hour or at least a period if not two. That was intense and you were coached. It wasn't someone coming in to watch you; it was someone coming in beside you to help you, giving you feedback during that lesson or right after the lesson. Co-construction was really intense because there were high expectations for what we were expected to do.

Joyce, 2012¹⁴⁰

Co-construction meetings serve as a critical organisational process for change, not only to support teacher learning, but also to support leader problem solving and development.

Conducted as professional learning conversations (Timperley and Parr, 2004) Te Kotahitanga co-construction meetings are underpinned by some important principles, these being: a culturally responsive pedagogy of relations is foundational; co-constructed responses are focused on one's own agency to create change; they utilise relevant evidence to support decision-making; and collegial sharing and adaptive expertise as the means to develop the process going forward, including a planned and timely review.

Berryman, 2013¹⁴¹

Joyce's research reveals how teachers were supported to process new learning with others in ways that reached across curriculum and department boundaries:

*Teacher A: We've never heard the word pedagogy used so much in our staffroom and professional learning communities and cross curricular teaching. Teachers are saying "I'm teaching this in Sciences. How can you relate this in Social Studies?" That's been a real impact on their teaching practice ... Te Kotahitanga changed things like our faculty for example, we now have professional development probably once every three weeks where we all have to bring resources and we have to share ... and six years ago we didn't ever do that. Now all of our units have changed and they have changed to be relevant to Māori students.*¹⁴²

The Te Kotahitanga professional development model demands an unrelenting focus on raising Māori achievement.

*We talked about some of our assessments we give the students in our faculty meeting. We give them [students] the opportunity to pass Level 3, Level 4 and Level 5. We don't give them the test for Level 3 if they're Level 3, we get them to do everything. I reckon our results are going to blow our goal. Our goal was to improve last year's results by 10%. So in other words, the number of Māori kids who were in Level 5, we wanted to improve that by 10%.*¹⁴³

Because Te Kotahitanga professional development was underpinned by the Effective Teaching Profile, building capability in effective teaching was core business. This approach countered the risk (identified in the BESSs) that student identity could be harmed when teachers, required to make use of test data, did not know how to make the changes that the data was telling them they needed to make.

Deliberative building of effective professional development expertise

The Te Kotahitanga model for building professional development expertise was itself developed and refined through disciplined inquiry. The approach included a series of national professional development hui for school facilitation teams. Members of the R & D team followed up with term-by-term visits, where they modelled and led an evidence-based approach to improvement. Evidence-based learning conversations were used to challenge traditional practices and support change. Facilitators used the Effective Teaching Profile and observation tools to gather evidence about the teaching of Māori students that they then used as the basis for feedback on practice, joint reflection, shadow coaching, and action for improvement.

The facilitation process (involving observation/feedback/goal setting) is integral to this process as it takes a long time for some staff to change teaching habits and ingrained attitudes which have been built up over decades. At William Colenso College we have had all our staff involved since the second cohort (year two), and we are still finding times when teachers regress to non-agentic attitudes and traditional practices. With the facilitation cycle operating within the school we are quickly able to identify these teachers who need support, to get the appropriate intervention. Those teachers who have been highly effective continue to demand the professional development support provided through the Te Kotahitanga PD cycle. This is because of the feedback and feed-forward they get on their practice. It is also important as we shift to a more discursive model of teaching, which requires higher level feedback, feed-forward and co-construction (at a student/teacher and teacher/professional development level).

Daniel Murfitt, principal¹⁴⁴

Both the model and facilitator expertise were critical for success. Indicative findings from previous New Zealand primary school interventions reveal that degree of improvement in student outcomes can be predicted by degree of facilitator expertise. In the early phases of the Te Kotahitanga

programme, policy timelines meant that facilitators had to come on board at the same time as teachers, so learners were leading the learning. This was a big ask.

Building expertise and capability in change processes through R & D

The Te Kotahitanga professional development model is an iterative one. Each group (teachers, facilitators, school principals and members of the R & D team) is part of a feedback loop wherein evidence informs practice.

Berryman, 2013¹⁴⁵

Te Kotahitanga deliberately built the expertise of facilitators, regional and professional development coordinators and administrative staff. Project coordinators were required to engage in a formal inquiry process that included postgraduate research to inform improvement. This formal research deepened their own knowledge at the same time as it built the knowledge base that informed further development. Facilitators and the project manager significantly contributed to this knowledge base with postgraduate and doctoral theses (e.g., Barrett¹⁴⁶, Ford¹⁴⁷, Joyce¹⁴⁸, Lamont¹⁴⁹, and Lawrence¹⁵⁰). Operations manager Te Arani Barrett completed her thesis in indigenous studies at Te Awanuiarangi in 2007¹⁵¹.

Published accounts by Phase 5 facilitators reveal the level of self-scrutiny involved, and the writers' unrelenting determination to improve:

Six weeks prior to the Hui Whakarewa I received a draft version of the narratives of experience (Bishop, Berryman & Smith, 2003) and a letter from the school facilitation team requesting that I read and annotate them as I felt appropriate. I diligently did just that. Of the 98 pieces of text I highlighted during that first reading, 75 were comments made by the researchers, 9 were from the teachers, 8 from whānau and only 6 by Māori students themselves. Plainly I did not prioritise listening to the voices of Māori students.

Lawrence, 2011¹⁵²

I wouldn't say that I was fully confident in facilitating co-construction meetings ... but I was becoming more effective ...

Joyce, cited in Lamont, 2011¹⁵³

In her thesis, facilitator Robbie Lamont illuminates the day-to-day challenges of connecting theory and practice, creating extended opportunities to learn alongside a more experienced colleague, and "the tension between leading learning and being a learner oneself".¹⁵⁴ She says disciplined professional inquiry that uses evidence within a relational framework is critical to success.

The better I got at understanding the evidence that was collected from the observation tool, and the connects and links I made for myself and the teachers, the better my feedback sessions got. I always kept to the evidence because it kept both myself and the teacher safe.

Joyce, cited in Lamont, 2011

Deliberative capacity building, advanced within a coherent R & D model, strengthened the expertise of facilitators as measured by their effectiveness in lifting Māori achievement. It also deepened their practical knowledge and their ability to build trust with teachers and leaders.

A national survey by the New Zealand Post-Primary Teachers' Association (NZPPTA) in 2013 ranked Te Kotahitanga as third most effective provision of professional development across the profession and as the most effective *national* professional development project – despite the fact that it reached teachers in only a small number of (high Māori population) secondary schools.¹⁵⁵

When Te Kotahitanga began it encountered some resistance from teachers, and NZPPTA expressed concern about aspects of the implementation. Almost a decade later, in the context of widespread

dissatisfaction by secondary teachers with professional development provision, NZPPTA found itself championing Te Kotahitanga because their survey indicated that it worked for Māori students and for teachers and leaders.¹⁵⁶

Te Kotahitanga was carefully designed not to overwhelm teachers with the demands of the intervention. High-impact pedagogies derived from disciplined R & D elsewhere were introduced into Phase 5 and reactivation schools within a responsive and carefully paced inquiry process.

4.7 Transformative educational leadership: Institutionalising deep change

This report has highlighted indigenous educational expertise with a track record for effective reform leadership as the first critical success factor for accelerating improvement in “mainstream” schooling.

The Secondary Principals’ Association of New Zealand gave an early award to Professor Bishop in recognition of the significance of Te Kotahitanga. Principals from across the phases have taken national leadership roles in championing or brokering the intervention and sharing stories of improvement forged in Te Kotahitanga. In 2007, principals from Te Kotahitanga schools came together to provide advice to the Ministry about ways in which leaders and policy makers could better optimise opportunities for systemic reform through Te Kotahitanga, arguing that the principles underpinning Te Kotahitanga should be “the way we do things around here”. Principals were seeking more dedicated resourcing, including for facilitators, long-term support for Te Kotahitanga at senior management level, less multiple reporting, and less disruption through policy delays and changes in personnel.

Bishop argues that leadership at every level, including the policy level, is critical for successfully implementing the intervention.¹⁵⁷ Reviewing phases 3 and 4, Bishop, Berryman and Peter concluded that mobilising middle and senior leaders in schools “so that they can move their practice from their currently primary role of administrators to being pedagogic leaders” was “the logical next step”.¹⁵⁸ This involves shifting the focus of leadership energies to the kinds of activities that the *School Leadership and Student Outcomes* BES found (Figure 9¹⁵⁹) to have by far the greatest impact on student outcomes: promoting and participating in teacher learning (effect size = 0.84); creating educationally powerful connections (studies reveal a wide variation in effect – see discussion on page 57); planning coordinating and evaluating teaching and the curriculum (effect size = 0.42); and establishing goals and expectations (effect size = 0.42) – in this case, making Māori achievement an absolute priority.

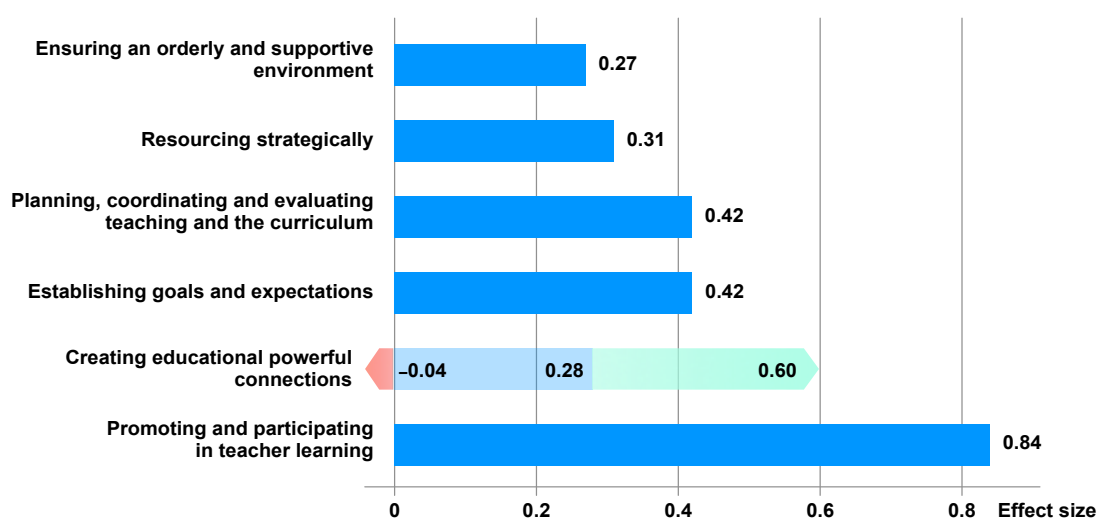


Figure 9. Effect sizes for the impact of different leadership activities on student outcomes: *School Leadership and Student Outcomes* BES

Phase 5 had a stronger focus on the role of middle leaders, senior leadership teams, and governance. For example, the GPILSEO tool was used by the team and schools to review progress on action planning, implementation, and momentum. Leadership co-construction meetings were formalised. To counter the loss of ownership that followed changes in boards of trustees in the earlier phases, proactive strategies were developed to engage new boards so that they understood Te Kotahitanga and committed to supporting it.

Phase 5 intensified school leadership development in ways that were consistent with findings from the *School Leadership and Student Outcomes* BES (Table 13):

Table 13. Key findings of the *School Leadership and Student Outcomes* BES

He Kura Rangatira, He Kura Ākonga School Leadership and Student Outcomes	Te Kotahitanga Phase 5
Whāia te iti kahurangi Establish goals and expectations	✓ (focus on Māori succeeding as Māori)
Ko te waka mātauranga he waka eke noa Promote and participate in teacher learning and development	✓
Ehara taku toa i te toa takitahi, engari he toa takitini Create educationally powerful connections Whakatere hono torokaha, ako torokaha Enable teachers to activate educationally powerful connections Whakatere hono ākonga torokaha, ākonga tū kaha Activate educationally powerful connections to learners' knowledge, experiences, identities, families, whānau, iwi and communities	✓
Kia pai te whakatere te waka Plan, coordinate, and evaluate teaching and the curriculum	✓
Mā te huruhuru ka rere te manu Resource strategically	✓
Ngā taputapu ngaio – whiria, mahia Select, develop, and use smart tools	✓
Ka tika ā muri, ka tika ā mua Ensure an orderly and supportive environment	✓
Ko te mātauranga whakaako hei taki i te taha whakahaere Ensure administrative decisions are informed by knowledge about effective pedagogy	✓
Kia whakawhanaunga i runga i te whakapono Build relational trust	✓
Kia māhorahora ngā kōrero Engage in open-to-learning conversations	✓
Āta kōrerotia ngā raruraru, kia tatū ai Engage in constructive problem talk	✓
Kia tātarihia, kia whakatikaina ngā take matatini Analyse and solve complex problems	✓
Me pounga waihoe, kia nui ake te whaihua ki ngā ākonga rerekura (katoa) Use a collaborative inquiry and knowledge-building approach, aligning conditions within and beyond the classroom to optimise valued outcomes for diverse (all) learners	✓ Treaty of Waitangi foundation

Priority was given to shifting ownership to schools; particularly at middle leadership level. As discussed earlier, new tools were developed that supported schools to implement the intervention with a high degree of integrity, and that developed and embedded capacity for ongoing improvement. Such tools created the potential for accelerating improvement and scale-up.

Berryman explains the theoretical underpinning that drove this intensified approach to developing ownership of the reform by school leaders:

Given the initial focus was on improving student outcomes and understanding that theory-based reforms have been the most effective means of scaling up education reform (Timperley et al., 2007), it was clearly important to support school leaders to acquire an in-depth understanding of the new underlying theoretical principles of the reform and then spread these new theories throughout the school. By understanding its theoretical base, leadership would be better poised to apply their learning responsively (rather than mechanically) in their school systems and they would be better able to apply these to new situations and challenges as they arose. In this way, leadership would come to own the reform and implement it appropriately in a wide range of settings and circumstances and in the face of competing interests and agendas.¹⁶⁰

Reforms designed to accelerate the achievement of Māori should carefully study the means by which pedagogical leadership effectiveness was developed in Te Kotahitanga.

Leadership ownership in action: William Colenso College

Phase 5 principal Daniel Murfitt of William Colenso College set out “to discuss the critical success factors (from my perspective) using the GPILSEO framework”.^{xvi} The following excerpts from his discussion exemplify the nature of leadership ownership. They also exemplify the increasingly active role that Phase 5 principals and other leaders took in developing the Te Kotahitanga model in practice.

Goal: *Te Kotahitanga is very clear about the goal and it is reinforced in the following ways:*

- *Strong evidence indicating inequalities and Maori achievement*
- *Strong evidence of student, whānau, teacher, principal voice built into the initial stages of change*
- *Very clear implementation guidelines to ensure there is integrity and accountability to the goal. This comes in the form of a strong and passionate professional development team, hui whakarewa, and smart tools.*

As the changes start taking place due to changed goals and pedagogy (interactions) we found the need to review and change our institutions (structures, positions, systems) in response to the changing culture evolving throughout the college.

Te Kotahitanga has supported these changes with both practical solutions and professional development for senior and middle leaders. This professional development has been responsive to the needs of each school and has enabled in-depth collaboration within internal leadership teams and across schools. I have prioritised my own leadership professional development over the last three years to incorporate Te Kotahitanga professional development. I have found other forms of professional development to be less responsive and less focused on our school goals.

^{xvi} For Murfitt’s perspectives on pedagogy and professional learning see pages 45 and 50.

We have developed in-depth co-construction meetings across three levels of the school. This has helped teachers and Heads of Learning to remain focused on the goal and focused on developing improved pedagogy through shared evidence and dialogue. I have attached our model for three level co-construction meetings (see Figure 10, page 56).

Te Kotahitanga has supported a change in language and culture across the school. This is very evident in our institutions as we have reviewed many of them, as they were not being responsive to the needs of our students and staff in relation to building more effective interactions. A good example of this is the increased resource we have put into embedding restorative practice in the school. Before Te Kotahitanga we understood the importance of restorative practice and attempted to implement it across the school. When all our staff (and leadership) started to experience a different way of teaching (and being) through their experiences in the change process brought on by Te Kotahitanga, they (we) started to question the way we were managing student behaviour and even the language we used in relation to this. We saw that what we were doing was working against what we were trying to implement in the classroom through the support of Te Kotahitanga. As a result we have significantly changed the way we manage relationships in the school using restorative practice.

Leadership: *Like institutions we have had to adapt our own approach to leadership as the culture of the school has changed. The change in culture has been led from many different angles (not just through the traditional leadership in the school) and is often being driven from the pedagogy in the classroom and from the staff and students.*

Te Kotahitanga (through leadership support provided by Mere, Russell, Robbie etc) has supported me and others within the school to challenge the status quo and therefore be responsive to the changing culture of the school. This has enabled us as a school to respond to change in leadership throughout the last three years. A good example of this is that we will be looking at a third lead facilitator within this time (one had a baby and the latest has become the principal at Te Aute), but there will be few problems associated with this transition as we have built capacity across the school.

I also believe that if I left the change in culture and the way we do things will be sustained as leadership is spread across the school. Te Kotahitanga has supported this change through the development of new institutions (HOL co-construction meetings), and the resources that have gone into developing Middle Leaders (Te Kotahitanga hui etc).

Spread: *This is the greatest challenge as we try and spread the reform wider than our own school (direct sphere of influence). I believe it is incredibly important to maintain Te Kotahitanga support from Mere and her team at this point, as many leaders in Phase 5 schools are now only just being able to look beyond their school to include whanau, the community, other schools and wider influences into the goal of raising Maori achievement (without deficit).*

Evidence: *This has been critical for our school and for me as a principal as getting this right has enabled us (me) to sell the message, implement the plan, respond to evidence which calls for change and sustain the change.*

What has changed as a result? *We have:*

- *Reviewed and strengthened our whole data collection system to incorporate AREA (Attendance, Retention, Engagement and Achievement) data.*
- *Been able to accelerate our progress in developing progressions (which are a series of skills and/or concepts which students need to develop to be successful at Year 11).*
- *Strong evidence indicating teacher effectiveness, which supports teacher development.*



Figure 10. The William Colenso model for 3-level co-construction meetings

In the excerpts above, the transfer of ownership of the reform is very clear. Note, for example, the principal's proactive planning to manage the threat to programme continuity posed by loss of critical expertise. In the earlier phases, loss of critical expertise was probably the single greatest threat to high-integrity implementation and maintenance; it remains a profound system-level challenge. This principal's use of GPILSEO for both development and self-review purposes models the kind of reflection that at every level of leadership will serve an agenda for accelerated improvement (see the table on pages 65 and 66)

4.8 Educationally powerful connections based on a cultural pedagogy of relations

Yes it (the effect of Te Kotahitanga on our teachers) was awesome to see, it just showed that they cared really, it showed that these Pākehā actually cared for Māori and not just learning it themselves but you know Mrs Khurana would say “Okay Moerangi can you look for us (for) a whakatauki (proverb) for next week?” ... I actually remember that whakatauki, it was: “Iti rearea teitei kahikatea ka taea, itirearea teitei kahikatea ka taea” (The bellbird is one of the smallest birds in the forest, yet it is capable of reaching the top of the kahikatea, the tallest tree in the forests of Tuhoe).

And when I told her, she was just like: “Wow! That’s a beautiful language!” And I explained to her what it meant and I said, “Have you got a similar whakatauki in your reo?” So she told me hers and I was amazed. You know same, same beautiful reo it was beautiful to hear.

Moerangi, Te Kotahitanga Graduate, Bachelor of Māori Education, Teacher,
Te Kura Kaupapa Māori o Te Ōrini ki Ngāti Awa¹⁶¹

Teachers are taking the weekly whakatauāki into their classrooms, sharing and applying it to their class context.

Flaxmere College, Phase 5 School¹⁶²

Educational leadership research, both New Zealand and international, shows that establishing educationally powerful connections (as distinct from connections that do not have powerful positive effects on educational outcomes) to learners' knowledge, experiences, identities, families, whānau, iwi, and communities is critical if the system is to be responsive to indigeneity and diversity.¹⁶³ However BES findings also reveal that the capacity to develop such connections is a major system weakness (see Figure 9 and Figure 11).

When the authors of the *School Leadership and Student Outcomes* BES carried out their quantitative analysis of outcomes-linked evidence they found little evidence relating to connections. This is partly because researchers have not realised how important this factor might be, and partly because leaders have generally been slow to leverage connections with their students' cultures, identities and communities. The little evidence that did exist revealed very wide variability, with some endeavours having large positive effects and others, negative effects. Although the calibre of the available research was insufficient to make a formal category, this variability, together with the potential for large effects, indicates an area critical to advancing progress on policy goals. Developing the capacity of leaders (including teachers) to create educationally powerful connections is potentially one of the most effective means of accelerating improvement.

Because direct evidence about the impact of different kinds of school connections with family, whānau and communities was in such short supply, a meta-analysis of the wider evidence of was carried out on 37 source studies, including 16 from New Zealand. See Figure 11¹⁶⁴ and Chapter 7 of the *School Leadership and Student Outcomes* BES for the results of this meta-analysis.

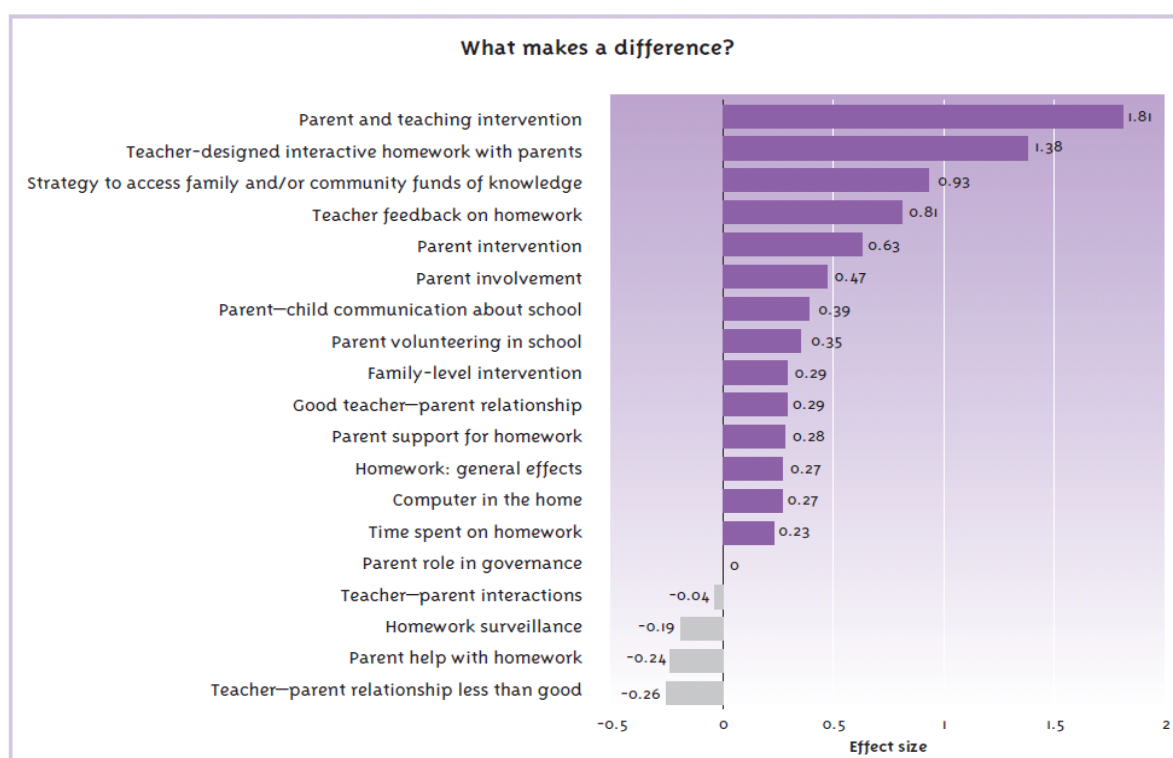
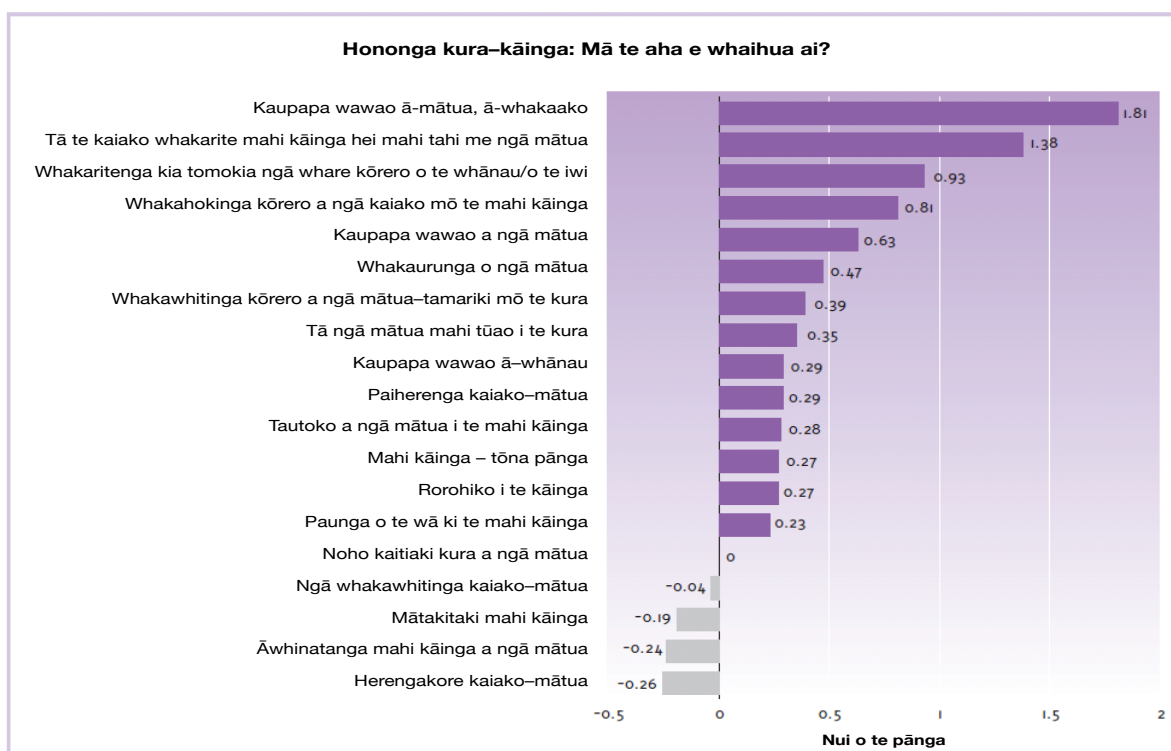


Figure 11. The relative impacts of different kinds of school-home interaction on student achievement



One of the most important findings of this meta-analysis is that, in their efforts to improve student learning, many educators, parents, whānau, iwi and communities are devoting budget, resources and precious time to endeavours that are not translating into valued outcomes for students.

In some cases, these endeavours may be responses to directives or signals (rightly or wrongly understood) from central agencies:

If the Ministry of Education communicates either through its words or deeds that the task is to fill empty schools, to win community confidence, to improve relationships, to increase parent participation or to empower local groups, it risks doing so in ways that do not also improve student achievement.

Robinson, Timperley & Bullard, 2001¹⁶⁵

On the positive side, as discussed earlier, the meta-analysis demonstrated just how educationally powerful connections could be. The work of the Poutama Pounamu Research and Development Centre led by Associate Professor Berryman within a research whānau supplies us with a number of instructive examples where kuia in particular guided the activation of such connections. Of the various interventions designed to leverage educationally powerful connections led or co-led by Berryman, six were in the highest-impact “parent and teaching” category and 13 had high effect sizes across a range of outcomes. Features of these interventions were their replicability, their capacity to address systemic needs (for example, opportunities to learn te reo Māori), their attention to capability building, and their exemplary use of R & D to drive improvements in implementation. In describing the theory of action behind this high-impact R & D endeavour, Berryman identifies whakawhanaungatanga as the driving force (see Robinson et al., 2009¹⁶⁶).

Two of these interventions were trialled in Phase 4 reactivation and Phase 5: Responsive Writing (Tuhi Atu Tuhi Mai) and Pause, Prompt, Praise (Tatari, Tautoko, Tauawhi). One seven-week trial of the latter intervention resulted in acceleration of chronological reading age by at least 0.5 of a year. In one trial of the former intervention older Māori students worked with younger Māori students to strengthen their writing while preparations were made to involve Māori community members. New cycles of R & D and new tool developments were initiated recently to leverage the potential of these high-impact literacy strategies in Te Kotahitanga schools.

The leadership that kaumātua provided as members of the research whānau is illustrated throughout the Phase 5 milestone reports – in the context of hui, in excerpts in e-books and by generally acting as role models, led schools to appoint their own kaumātua.

As part of Phase 5 a new self-review tool, *Configuration Map: Connecting with Māori Whānau and Communities*, was created to encourage the development of educationally powerful connections. Used initially by principals, senior leadership and facilitation teams, this Likert scale-based tool provided a means of assessing progress in developing collaborative school–home relationships and connections with Māori communities.

Phase 5 also institutionalised a range of strategies for forging educationally powerful connections with Māori students. As engagement increased, greater attention was paid to assisting Māori students to make the connection between success in schoolwork and a successful career:

Wiremu: Māori careers they helped me in Year 10, being told what we needed to do, what we had to get to get to that place. They actually really helped me. Like maths, doing my work real good, but if I didn't do that kind of stuff I wouldn't actually get that career that I wanted (p. 100).

In their milestone reports, the project team highlighted the challenge that schools experienced in creating educationally powerful connections for their Māori students:

There were many comments regarding the need to develop strategies and change the ways in which school leadership teams engage with whānau, including being more visible within the Māori community and working collaboratively within non-dominating relations of interdependence.

It was clear that staff attitudes changed as they reflected on the gap between their everyday practice and their own aspirations: “What we have tried so far has been tokenism”, “We have a long way to go in effectively involving the community.”¹⁶⁷

4.9 Collaborative R & D cycles driving accelerated improvement to scale

Understanding the professional learning and development (PLD) model adopted by Te Kotahitanga means understanding that it is a research and development project which builds on lessons learned from experience, then refines and develops new ways of working as a result.

Berryman, 2013¹⁶⁸

From the start, the goal of Te Kotahitanga was to have Māori students succeeding as Māori in “mainstream” education. In its pursuit of this goal it employed a wide range of research knowledge, expertise, and successive cycles of collaborative endeavour, inquiry, and knowledge building. In this section of the report we explain how this collaborative research and development approach is relevant to policymakers looking to accelerate educational improvement, especially in areas where there is a history of persistent disparities and ineffective interventions.

Who benefits?

Te Kotahitanga pursued a principled strategy of ensuring that all R & D was designed to serve the interests of educational improvement. This approach was grounded in kaupapa Māori educational research principles and methodology. The aim, says Bishop, was “to ensure that issues of initiation, benefits, representation, legitimisation and accountability were not being dominated by the researcher(s)’ agenda, concerns and interests within the research process”.¹⁶⁹

Academic imperatives can be at odds with an improvement or applied research agenda, encouraging “armchair” critique, quantity of publications, recency, narrow specialisations, blue skies research and

theoretical originality, irrespective of its potential or sufficiency for helping address an educational need.

Central to the R & D approach to intervention is an ongoing evaluation of the impact on Māori students' achievement – and that this evaluation includes the perspective of the students themselves. The consistent use of these two indicators means that effectiveness and benefit are constantly under scrutiny, and constantly being realigned to serve the goal.

Why not just research?

Research enables policy to harness science – or in the case of education, social science – knowledge. But research without development (R without the D) is an insufficient and risky basis for educational policy making because too much educational research has little or no interest in testing hypotheses about what is effective for diverse (all) learners. The *Teacher Professional Learning and Development* BES found examples of professional development programmes that had negligible or even negative impacts on student outcomes. A prevalent New Zealand example can be found in interventions based on flawed research theories about learning styles¹⁷⁰ and directed at Māori and Pasifika students. These have led to stereotyping by teachers, with the result that their students' educational opportunities have been narrowed rather than expanded.

R & D requires diverse expertise

The complexities of educational practice and institutional change are such that, to obtain accelerated improvement, many different kinds of knowledge, evidence, and expertise are needed. Academics customarily work within narrowly defined areas of research expertise, but to solve educational problems in schools multiple areas of expertise informed by research must be brought to bear on those problems.

Successful interventions are built around a coherent, responsive model of change that is informed by contributions from students, researchers, professional learning facilitators, leaders, teachers, resource developers, digital experts, administrative staff, and those with specialist cultural or community expertise who are committed to the improvement agenda.

Evidence from New Zealand and elsewhere demonstrates that the R & D process affords an opportunity for integrating community funds of knowledge into education in specific, respectful, and transformative ways that enable accelerated achievement and have ongoing impact.¹⁷¹ This contrasts markedly with the ceremonial and transitory encounters that often pass for partnership or consultation, where the connections either are not leveraged for the benefit of the students or are leveraged in time- and resource-hungry ways that demand a lot of the indigenous community and educators but return little benefit to the students. Strategies of the latter kind can entrench deficit thinking in educators who find they have little to show for their efforts; alternatively they can lull them into believing that they are making progress when nothing has actually changed for the students.

Building on “what makes a bigger difference” research knowledge

Any R & D project that aims to accelerate improvement must build on what is already known about what makes a bigger difference for learners. This knowledge is to be found in the cumulative research evidence from educational psychology, educational sociology and other fields of academic endeavour.

Hattie points out that in teaching, most activities make some difference, but often the difference is small. This is where effect size, used to assess the relative effectiveness of different approaches, interventions, or programmes, becomes a valuable tool. By comparing effect sizes, meta-analyses of studies are able to make transparent where effort can leverage the greatest impact. For example, in his 2009 analysis of factors influencing student outcomes, Hattie found that teacher feedback ranked

fourth out of teaching influences in his summary list of 138 influences (effect size = 0.73).¹⁷² Recognising the potential of teacher feedback to influence student learning, Te Kotahitanga put particular emphasis on strengthening its use.

The power of R & D is that it builds not only on the evidence of *what* makes a bigger difference but also on the evidence of *how* to accelerate progress – the “how” is not assumed, it is an explicit focus of research. In his analysis, Hattie found formative evaluation to be the teaching factor with the greatest impact (effect size = 0.90). But teachers need to inquire into their own practice if they are to learn “how” to conduct and use formative evaluation in ways that work best for their students. Te Kotahitanga’s collaborative R & D process ensured that, from early in the project, willing teachers were able to participate in building their own expertise through the use of inquiry directed at improvement.

“What does not work” evidence is valuable too

The Te Kotahitanga R & D model, with its unrelenting emphasis on what makes a bigger difference for Māori learners, resisted the impulse to select evidence that appeared to validate a strategy and ignore evidence that didn’t. Rather, the researchers were assiduous in monitoring and interrogating what was not working, and in using this evidence as a resource for improvement.

For example, in Phase 1 it became apparent that Māori students were starting to absent themselves from the classes of non-participating teachers, so the intervention model was changed: the focus shifted from individual teachers to the entire junior school (years 9 and 10). And as funding permitted, the focus was broadened yet again to include the whole school.

Within the Te Kotahitanga R & D kaupapa there was a very strong concern to discover the conditions that enable fidelity of intervention and the conditions that enable maintenance and ongoing acceleration of improvement.

As Phase 5 began, the researchers initiated a concurrent investigation into the sustainability of Phase 4. They continued to analyse what it was that differentiated the high and low implementers and maintainers and used this knowledge to strengthen the Phase 5 model:

The picture that emerges is a project very responsive to patterns in the implementation and redesigning on the basis of those patterns. It shows the emergence of an “optimal” model for replication (in Phase 4) through the iterative problem solving and testing, but which suffered in scaling up from changes in the foundation of funding and organisation ... This provides very valuable data on the ongoing challenges of sustainability and scaling. It comes to the conclusion that capability needs to be built into schools more directly for some of the functions that projects such as TK require as programmes are scaled up ... this report makes an important contribution to our understanding of how to scale up promising programmes and embed them in everyday practices in the system.

McNaughton, 2013¹⁷³

R & D for disciplined innovation

Much hope has been invested in innovation for its own sake, as if innovation were a silver bullet for educational improvement. Because a history of fads has delivered change but not improvement, policy makers must pay careful attention to the likelihood of a return when planning any new investment of time, money, and other resources. Disciplined R & D will greatly increase this likelihood. Disciplined R & D is a driver for productive innovation, harnessing the *what works* and *what matters* evidence from the social sciences, using an inquiry stance to ensure responsiveness, and enabling ongoing improvement through cycles of development. There is too much at stake in education for policymakers to rely on a reinventing-the-wheel approach. Small, short-lived successes will not advance policy goals.

It was systematically attending to the perspectives of Māori students that enabled the Te Kotahitanga model to be developed and ensured its continuing responsiveness. It was collaborative R & D that maximised the benefits of existing evidence of effectiveness and drove innovation. For example, feed forward became a focus early in Phase 2 when students raised as an issue that they often did not really understand how they were meant to be learning or applying their learning until they got feedback at the end. They wanted more proactive guidance, interaction, and scaffolding.

Because of its potential to support learning, feed forward found a place in the original classroom observational tool. In the early stages of its development this tool, co-constructed with teachers, drew iteratively and successively on the narratives of students, applied educational research knowledge, and empirical testing:

Following the provision of feedback to the teachers, a further interactive session between the teachers and the researcher/professional development team involving feed-forward of new ideas, and co-construction of new approaches and strategies was undertaken. This was then followed up by a further 130 in-class observations in the form of shadow-coaching which involved in-class support and feedback on the lessons/strategies/approaches developed in the co-construction meetings.

Bishop, Berryman, Tiakiwai & Richardson, 2003¹⁷⁴

It cannot be taken for granted that student feedback will be used effectively to serve improvement purposes. This is highlighted by the PISA 2012 data, in which New Zealand principals report greater use of student feedback than principals in any of the other countries surveyed.¹⁷⁵ Yet the same survey finds that the achievement of our students has declined over the past three years. So what are we doing with the feedback we gather?

In Te Kotahitanga, through disciplined cycles of innovation, multiple sources of evidence and expertise were codified, refined, and made accessible for teachers. The R & D process enabled the tools developed to be tested and further refined so that teachers were able to improve their effectiveness with Māori (and indeed all) students.

After they had been through a decade of collaborative R & D cycles, Ladwig of the University of Newcastle independently tested the validity of the Te Kotahitanga observational tool and Effective Teaching Profile (ETP). He found a strong relationship between overall teacher score across observations and student gains in mathematics, demonstrating that there was a large difference between the mathematics achievement of students taught by the teachers rated highest on the ETP (107.80 asTTle gain score) and those rated lowest (47.40 asTTle gain score).

Hattie carried out a conservative test on the effect sizes for the difference in gains for students in the classes of teachers who scored low on the ETP (1 or 2) and those who scored high (3 or 4). The effect size for Māori was 0.36, for non-Māori it was a very high 0.86, and across all students it was 0.63. Hattie points out that this high overall effect exceeds his benchmark for an effective intervention (effect size > 0.40) and that it supports Bishop's claim that what is good for Māori is good for all students.

This Phase 3 analysis also revealed the need for further work to achieve the desired acceleration of progress for Māori in particular. Ladwig found that streaming was prevalent in the Phase 3 schools. He also found that most Māori were allocated teachers who scored low on the ETP while non-Māori were much more likely to be allocated high-scoring teachers.¹⁷⁶ This finding demonstrates how organisational and leadership decisions about resourcing can perpetuate inequities in educational opportunities and achievement.

In 2011, Berryman and Bishop published *The Te Kotahitanga Observation Tool: Development, use, reliability and validity*, a report detailing the results from their own testing of the observational tool with Phase 3 trainers, in-school facilitators and teachers. They concluded that, "when used by trained and experienced facilitators, [the tool] is reliable and valid ... and suitable for providing effective formative and summative feedback to teachers on their use of the Effective Teaching Profile" (p. 90).

Phase 5 saw an intensified R & D focus on the organisational challenges that influenced the reach of tools such as the ETP, how effectively they were used, and whether they were embedded in practices in ways that enabled continued improvement in the face of changes in staffing and funding. As a result, new ways were found to scaffold and institutionalise in-school facilitation. “Schools [are] making explicit connections to collaborate on the work of Te Kotahitanga within schools, amongst staff, and [with] their Māori communities.”¹⁷⁷ Another new tool, trialled in late 2013, was designed to help school leadership teams have critical conversations about sustainability.

Other researchers at the University of Waikato used findings from Te Kotahitanga R & D to inform professional practice in other areas. For example, Catherine Lang’s doctoral thesis¹⁷⁸ explores how the ETP might be used to develop effective Pākehā teachers of Māori students in primary schools. Knowledge derived from Te Kotahitanga is also a crucial resource for policy makers as they consider what system responses can reverse the decline in Māori achievement in primary school mathematics and science observed over the period 2002–11¹⁷⁹.

R & D for scale and sustainability: Codified knowledge

There are now more than 250 reports and publications of one kind or another on Te Kotahitanga: nine¹⁸⁰ books, 10 years of milestone reports, a series of external evaluation reports, and a website, plus numerous conference papers, theses, and now e-books. These explain Te Kotahitanga, its theoretical foundation, the R & D cycles that informed the model, and further possibilities for accelerating improvement. Te Kotahitanga has featured in such prestigious international publications as the *Handbook of Qualitative Research in Education*, the *Handbook of Critical and Indigenous Methodologies* and *Culturally Responsive Methodologies*¹⁸¹ (see the Te Kotahitanga website for a bibliography). Collectively, this body of work represents a very significant resource for improving outcomes for indigenous students in New Zealand education and elsewhere.

R & D: An agentic strategy

It was a founding premise of Te Kotahitanga that those involved must take an agentic (rather than deficit) approach to raising the achievement of Māori. The goal is the focus, not the obstacles, whether they are perceived or actual.

The theoretical underpinning of the project enabled the project team to anticipate and recognise potential obstacles such as staff resistance or non-participation, use constructive strategies to overcome these obstacles, and move forward.

Collaborative problem solving is crucial for operationalising an agentic approach that is responsive to the rapid and often unpredictable changes that occur in schools and the wider policy environment. For example, changes of staff and leadership in schools, policy interventions (such as the introduction of commissioners and statutory managers), loss of Te Kotahitanga-trained staff from School Support Services or Resource Teachers of Behaviour and Learning (RTLBs), cuts to or reprioritising of services, changes of contract management personnel in the Ministry, illness, major community crises, and so on.

Using a responsive R & D approach, the Te Kotahitanga project team sought to anticipate and forestall negative effects and to use evidence of the impacts of such changes to create alternative solutions and maintain or re-establish an ongoing improvement trajectory.

R & D for scale and sustainability: Smart tools

Sustainable educational reforms need to provide the net for the long-term, not the fish for one meal.

Bishop, O'Sullivan & Berryman, 2010¹⁸²

Commenting on the findings of the *School Leadership and Student Outcomes* BES, international reform expert Professor Michael Fullan made particular mention of the potential of “smart tools” for implementing, scaling and sustaining reform. Such tools need to be based on valid theories and well designed, but even so, they can only be considered smart if they achieve their purpose and advance valued student outcomes.

As mentioned above, a range of smart tools came out of Te Kotahitanga as project leaders strove to support in-school leadership to quickly and deeply embed processes for change into school practices. The Rongohia te Hau survey tool is a good example. Leaders in Te Kotahitanga schools always had access to published narratives of Māori students, but this new tool enabled them to access feedback from Māori students in their own school and from fellow teachers in a systematic and time-efficient manner. This “leading indicators” approach ensured that investment went directly and without delay into improvement. Rongohia te Hau supported schools to be responsive to Māori students, and to monitor dissonance between student, teacher and leader perspectives as a strategy to inform improvement.

Since the ending of Phase 5, a series of modules in the form of e-books has been created to ensure that subsequent professional learning programmes can access the knowledge that has come out of Te Kotahitanga R & D. These modules were informed by the reactivation support offered to Phase 3 and 4 schools and are available to schools that have been participants in any of the five phases.

While these e-books have the potential to be superbly smart tools that leverage new media opportunities to extend the reach of Te Kotahitanga, they should not be seen as a quick fix or used in ways that do not meet the conditions for effective professional learning and development. For example, if teachers are not given sufficient time to integrate new knowledge and skills or sufficient opportunities to process new learning with others, little will change. And if the crucial importance of whakawhanaungatanga as a driver for cultural re/positioning and relational trust is underestimated, then e-books won't bring us much closer to the goal of Māori enjoying educational success as Māori.

Perhaps the most critical challenge requiring an R & D orientation is how to take an intervention to scale while maintaining integrity of implementation, and how to ensure sustainability. Here again, Te Kotahitanga has shown the way. Despite the lower average decile of the participating schools, the impact of the Phase 5 intervention was larger than that of Phase 4: as at the end of 2012, over half of year 11 Māori in the Phase 5 schools had gained NCEA level 1; a comparable analysis of Phase 4 school data found that 40.3% of year 11 students had attained this level.¹⁸³ Findings from an in-depth analysis of Phase 4 implementation factors were used to improve the Phase 5 design and these improvements enabled highly effective new development.

GPILSEO is a theoretical smart tool designed to inform efforts to develop sustainability and scalability at classroom, school and system level (see the following table).¹⁸⁴

Table 14. GPILSEO: Sustainability and scalability at classroom, school and system level

	Sustainability/Going to scale	Class room	School	System
Goals	Must focus on outcomes for Māori	Goals need to focus on improving targeted students' participation, engagement, and achievement in the classroom.	Goals need to focus on improving all targeted students' achievement across the school.	Policies and resources allocated to effectively address disparities and accelerate progress on specific system targets for Māori success as Māori.
Pedagogy	Embedded to change core practice	A culturally responsive pedagogy of relations needs to be embedded so that students and teachers can understand and competently implement new practices and new theories of practice in their day-to-day classroom relationships and interactions.	A new pedagogy of relations needs to be embedded in all classrooms, and needs to inform relations and interactions at all levels in the school and community.	Ongoing, on-site PD feedback loops for all teachers on effective pedagogy aligned with system development in culturally responsive pedagogy of relations across initial teacher education.
Institutionalising	New organisational structures to support in-class initiatives	Developing new ways of relating and interacting in classrooms needs to be systematically organised and institutionalised.	Time and space for the development of new institutions within the school need to be allowed; structures such as timetables, staffing and organisational structures need to support the reform.	Policies and infrastructure incentivise organisational change, resource expertise and align funding policy to drive and integrate ongoing effective professional learning.
Leadership	Leadership responsive, proactive, distributed and transformative	A means of developing distributed leadership within the classroom is needed so that students can be initiators of, and take responsibility for, their own learning and support the learning of others.	Leadership needs to be responsive to the needs of the reform, proactive in setting targets and goals, and distributed to allow power sharing.	National leadership support and PD for leaders to promote responsive, distributed pedagogical leadership.
Spreading reform	A means needed to include all teachers, parents, communities, iwi and agencies	Inclusive classrooms are needed in which new classroom relationships and interactions include and engage all students in learning.	All staff need to join the reform, and parents and community also need to be included.	Requires policy funders, researchers and practitioners to collaborate – iterative process of interaction, feedback and adaptation.

Table 14. GPILSEO: Sustainability and scalability at classroom, school and system level (continued)

	Sustainability/Going to scale	Class room	School	System
Evidence	A means of developing, using and reviewing tools, measures, and evidence and inquiry codified for improvement	Teachers and students need to be able to gather and examine formal and informal formative assessment measures in order to improve their practice and learning through informing changes in instructional practice.	In-school facilitators and researchers need to be able to use appropriate instruments to monitor the implementation of the reform in order to provide data for formative and summative purposes.	National level support for collaborative R & D to enable formative problem solving and decision making and ongoing disciplined innovation that informs wider policy and mix of accountability and capability building for acceleration.
Ownership	A means by which all involved take ownership	Ownership is seen when teachers' and students' learning needs are central to classroom relations and interactions, and when teachers' learning needs are based on analyses of patterns of student learning.	Ownership is seen when the whole school, including the board of trustees, takes ownership of the reform, when teacher learning is central to school systems and structures, and when institutions are developed to support teacher learning.	National ownership of the problem, priority for sufficiency of funding and resource to realise solutions within a defined time period, to embed ongoing improvement.

R & D: Getting educational improvement right on the ground

Effective intervention in schools is complex. Through a collaborative R & D endeavour the Te Kotahitanga project team worked responsively with schools to develop and exercise deep operational knowledge of how effective intervention works on the ground. The expertise and momentum developed through successive phases of Te Kotahitanga was the outcome of a cumulative R & D endeavour that delivered disciplined innovation not only through theoretical smarts but also through practical smarts.

Many projects focus on just one of the big levers for educational improvement, paying only cursory attention to the others. A collaborative R & D approach promotes a coherent improvement agenda in which each of the four big BES levers is activated in ways that strengthen the intervention instead of overloading those charged with implementing it. The complexity of such work should not be underestimated.

The BES Programme advocates collaborative R & D as a process for cumulatively building the theoretical and practical knowledge required to achieve significant, enduring educational improvement. For policy makers and communities seeking substantive progress on ambitious targets in areas where there are longstanding disparities, an R & D approach of the kind we have described offers an alternative to reinvent-the-wheel efforts that can never deliver the desired changes to scale.

R & D: Value for investment

While R & D is recognised in New Zealand as a lever for innovation in industry, agriculture, medicine and applied science, it is not similarly recognised as a lever for educational innovation as it is in jurisdictions such as Singapore, Hong Kong, and (more recently) the UK¹⁸⁵. The global fiscal crisis and competing priorities have further constrained the appetite for such investment here. Given this context, Te Kotahitanga stands out as a notable exception with its R & D kaupapa.

A 2003 OECD report identified the relatively low proportion of funding allocated to educational R & D as a challenge for countries that aspire to be knowledge societies.

*A rough estimate of the level of educational R & D as a percentage of total expenditure on education is on average less than 0.3% in six countries for which data are available. This is a very small figure when education is compared with other knowledge sectors, for example, the health sector where between 5–10% of the total health expenditure in public and private sectors are directed to R & D.*¹⁸⁶

In an assessment of educational research in New Zealand, the same report estimated that the proportion of educational expenditure allocated to R & D here was an even more miserly 0.17–0.20%.

*At the same time New Zealand invests far less in research and development of any kind than other developed countries, and has far lower R & D personnel per million population than Australia or Western European countries. New Zealand is successful educationally, but is, by R & D standards, not becoming a knowledge economy.*¹⁸⁷

If, as is widely accepted, there is a correlation between improvements in a nation's educational performance and improved economic performance, then educational R & D can be an investment that returns a tangible dividend. It is worth noting in this context that a cost-benefit formula provided in a report by the New Zealand Institute for Economic Research to the Ministry of Education in June 2012¹⁸⁸ indicates that an intervention would need to bring about a change in NCEA level 2 achievement for 1 in 30 or fewer Māori students in order to break even. Te Kotahitanga Phase 5 made a difference for around 1 in 8 Māori students who were previously not attaining NCEA level 2 in year 12.

While funding can be wasted on educational R & D, high-impact educational R & D is a different matter. In areas that have long challenged our educational system, high-impact R & D that enables cumulative knowledge building and informs ongoing improvement to scale will be indispensable in

enabling the necessary change. For a Ka Hikitia-sized step-up, investment is needed in disciplined innovation that can disrupt stasis or decline and accelerate improvement.

Sound policy making requires a consistent approach to evaluating the impact and longitudinal benefits of interventions. Indicative comparisons show that the impact of Te Kotahitanga Phase 5 on NCEA level 1 achievement is around double that of PB4L. This kind of comparative analysis is needed across interventions if New Zealand schooling is to achieve the goals set out in *Ka Hikitia*.

Te Kaupapa Whakanikoniko Pūnaha me te Whakawhanake Matatautanga

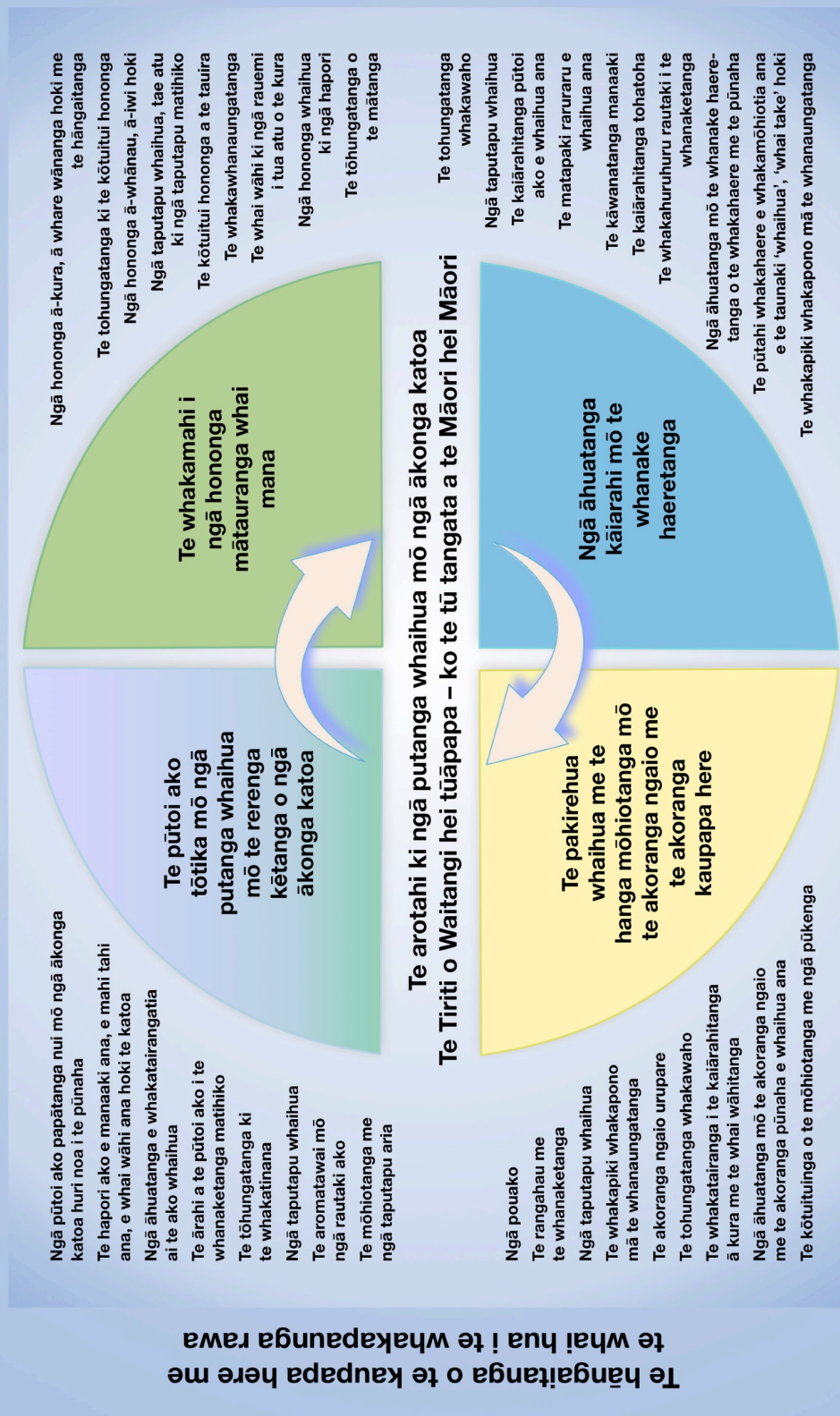


Figure 12a. The BES model for system improvement and capability building

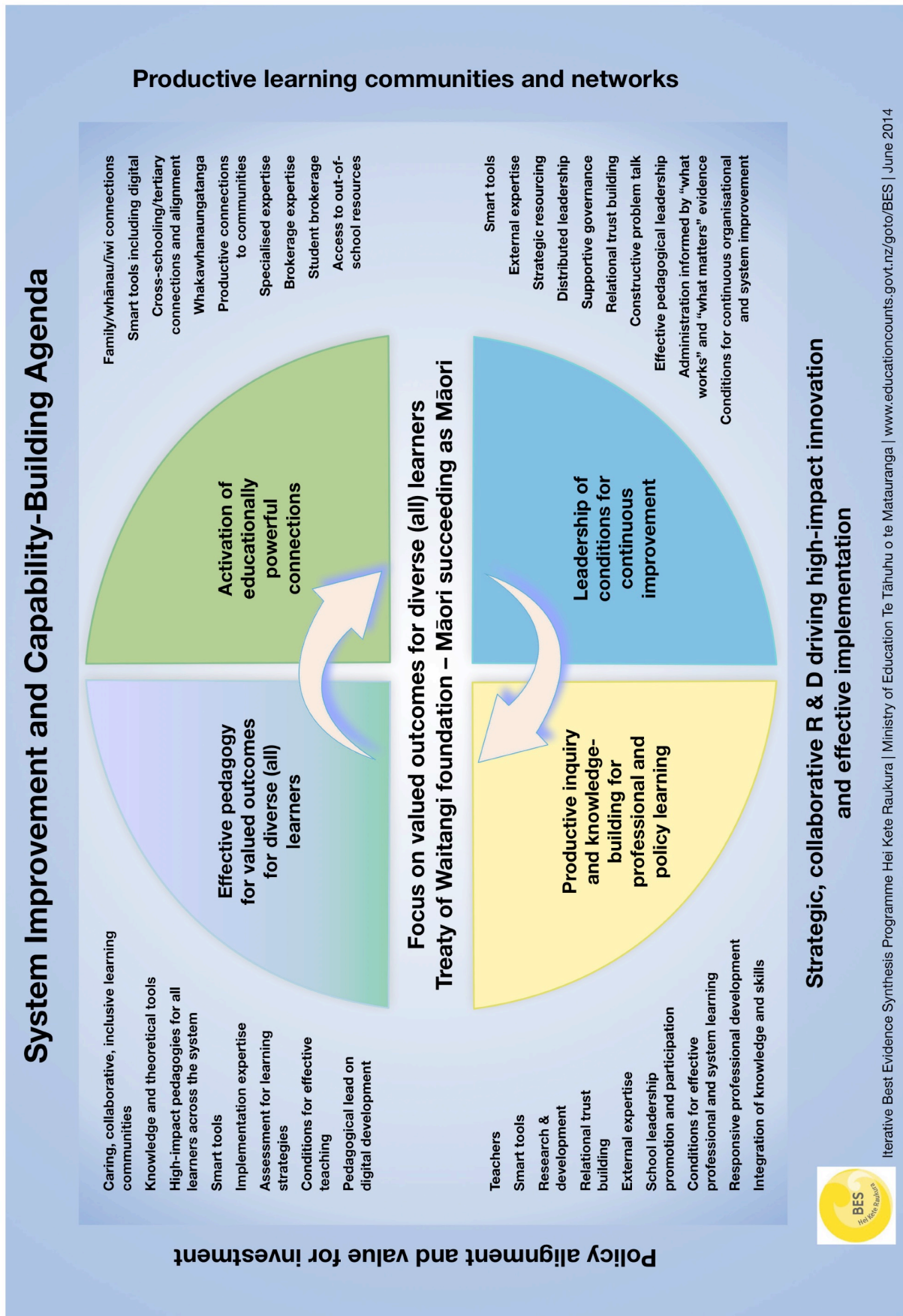


Figure 12b. The BES model for system improvement and capability building

Conclusion

... the Ministry's introduction of Ka Hikitia has not been as effective as it could have been. There were hopes that Ka Hikitia would lead to the sort of transformational change that education experts, and particularly Māori education experts, have been awaiting for decades. Although there has been progress, this transformation has not yet happened....

The Ministry should consider what activities work best and prioritise these. In our view, the Ministry should also prioritise work and resources to target activities that best support Ka Hikitia being put into effect.

Auditor-General, 2013 (bold as in original)¹⁸⁹

This report evaluates the impact of Te Kotahitanga Phase 5 (to 2012) on Māori student achievement in the senior secondary years. The Phase 5 sample comprised 6204 Māori students in year 11 and above (in all, there were 11,608 Māori students in these schools – over 9% of the Māori enrolments in secondary or area schools). The report also demonstrates how the intervention has supported Māori to experience educational success as Māori.

It is in NCEA level 2 – the gateway qualification for transition to employment and an area of particular focus for the Government – that the most accelerated progress was made. By 2012 the level 2 pass rate for students in Phase 5 schools had improved at around three times the rate of students in the comparison schools. While similar success in University Entrance was yet to be achieved, in the Phase 5 schools the actual numbers of Māori attaining UE almost doubled over the period of the intervention. Table 10 from page 30 tells a compelling story:

Achievement gains for Māori in Te Kotahitanga Phase 5 and a comparison group (2009–12)¹⁹⁰

	Achievement as %		Difference as %
	2009	2012	
NCEA level 1			
Te Kotahitanga Phase 5	41.6	52.4	10.8
Comparison group	42.1	46.1	4.0
NCEA level 2			
Te Kotahitanga Phase 5	44.9	59.6	14.7
Comparison group	44.1	48.9	4.8
NCEA level 3			
Te Kotahitanga Phase 5	32.3	42.3	10.0
Comparison group	30.0	33.4	3.4
University Entrance			
Te Kotahitanga Phase 5	22.9	26.0	3.1
Comparison group	21.2	23.9	2.7

What Te Kotahitanga Phase 5 achieved was an accelerated improvement trajectory for Māori students when the OECD was reporting the New Zealand secondary education system to be in a period of accelerating decline. This accomplishment is particularly remarkable in the context of the wider evidence base that indicates that many well-intended interventions have little (or even negative) impact on Māori achievement.

Te Kotahitanga Phase 5 generated major new knowledge about the conditions required to achieve implementation fidelity when taking an intervention to scale, and to institutionalise school-led improvement. It also highlighted a range of challenges and strategies to address them.

This report identifies seven critical success factors:

- Indigenous educational expertise driving culturally responsive provision for Māori
- Whakawhanaungatanga driving the “how” of improvement
- Effective teaching: developing culturally responsive pedagogy
- Effective professional development: building school-based expertise
- Transformative educational leadership: institutionalising deep change
- Educationally powerful connections based on a cultural pedagogy of relations
- Collaborative R & D cycles driving accelerated improvement to scale.

The discussion has tried to make explicit the reasons why collaborative, high-impact R & D is such a significant policy resource for accelerating improvement. Through the five phases of Te Kotahitanga, R & D was unwaveringly concerned with valued outcomes for Māori students and designed to ensure coherent, multi-level capability building for ongoing improvement.

While the focus of this report is Te Kotahitanga Phase 5, it foreshadows the need to develop a methodology that will enable value-for-investment judgments to be made across all government-funded educational interventions.

In 2017, the five-year-old Māori boy who after one week at school asked his parents ‘How can I make my skin white?’¹⁹¹ will be at secondary school.

Given how important the early years are for later success, it is clear that improvement initiatives at secondary level alone will not be enough to make the accelerated progress required. To achieve Ka Hikitia goals and the Better Public Service target for NCEA level 2 we will need to develop highly effective interventions to support accelerated improvement across primary and intermediate schools too.

As the Ministry prioritises resources to support implementation of Ka Hikitia, it is critical that the momentum gained in Te Kotahitanga Phase 5 is not lost.

Appendix



New Zealand Primary Schooling Outcomes

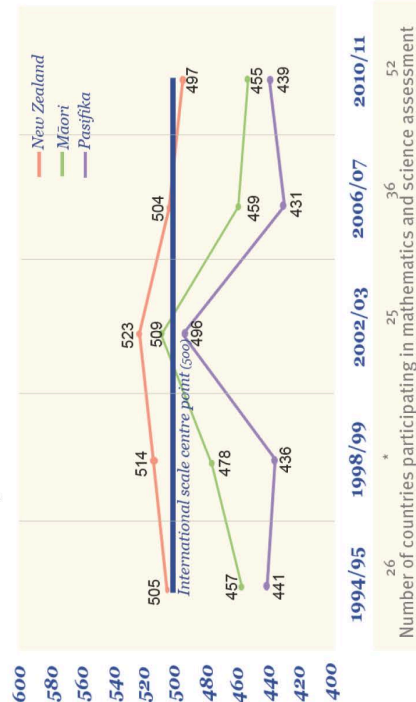
Trends in Mathematics, Science, Reading Literacy Achievement & Te Reo Māori Participation

Achievement in Primary Schooling

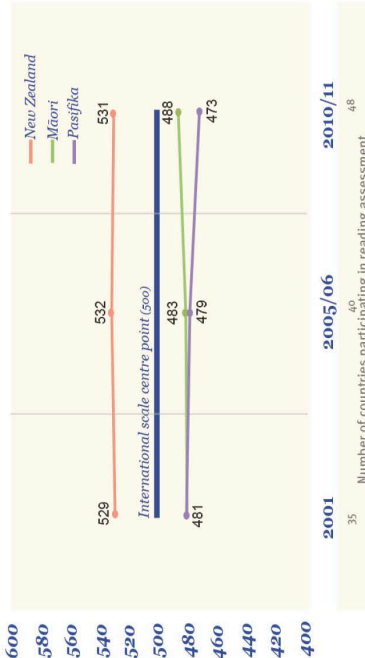
Mathematics Year 5



Science Year 5



Reading Year 5



Participation in Māori Language Learning



Achievement results are from the Trends in International Mathematics and Science Study (TIMSS), and the Progress in International Reading Literacy Study (PIRLS).

* TIMSS was not conducted internationally at Year 5 in 1998/99. New Zealand ran a repeat of TIMSS 1994/95 in order to obtain comparable data.

Endnotes

- ¹ Whakatauki from Berryman, M. (2008). He Mihi. Repositioning within indigenous discourses of transformation and self-
- ² Ministry of Education (2013). *Ka Hikitia – Accelerating Success 2013–2017*. p. 9.
- ³ In 2013, 74.2% of all school leavers and 78.6% of all 18-year-olds had attained at least NCEA level 2. For Māori the corresponding percentages were 55.1 and 63.3.
- ⁴ May, S., with Cowles, S., & Lamy, M. (2013). *PISA 2012: New Zealand summary report*. Wellington: Ministry of Education. <http://www.educationcounts.govt.nz/publications/series/PISA/pisa-2012/pisa-2012-new-zealand-summary-report>
Note: further information was sought from the Manager, Comparative Educational Research Unit, to check the statistical significance of national changes.
- ⁵ For information about the Iterative Best Evidence Synthesis Programme see The use of evidence to improve education and serve the public good, a paper prepared by A. Alton-Lee (2012) for the New Zealand Ministry of Education and the annual meeting of the American Educational Research Association, Vancouver, Canada. https://www.educationcounts.govt.nz/_data/assets/pdf_file/0004/109039/Alton-Lee-AERA-2012-Evidence-for-Improvement-April-050215.pdf
- ⁶ Aitken, G., & Sinnema, C. (2008). *Effective pedagogy in the social sciences / Tikanga a iwi: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education. <http://educationcounts.govt.nz/goto/BES>
Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education. <http://educationcounts.govt.nz/goto/BES>
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- ⁷ Bishop, R., & Berryman, M. (2006). *Culture speaks: Cultural relationships and classroom learning*. Wellington: Huia Press. pp. 1–2.
- ⁸ Fancy, H. (2005, February). *Schooling reform: Reflections on New Zealand experience*. IARTV Seminar Series. Paper 142, IATRV, Melbourne
- ⁹ In 2005 the Ministry of Education sought a proposal for a low-cost Te Kotahitanga intervention for years 4 and 5, but in the end decided to fund Te Kotahitanga at secondary level only.
- ¹⁰ In 2012 this was more than 16,965 Māori students. The percentage of total Māori students at secondary level was 24.6%. This will be a slight underestimate because the names of schools participating in Phase 1 remained confidential and data was unavailable for some Phase 2 participants.
- ¹¹ Office of the Auditor-General (2013). *Education for Māori: Implementing Ka Hikitia – Managing for Success*. Wellington: Office of the Auditor-General. p. 7. <http://www.oag.govt.nz/2013/education-for-maori/docs/education-for-maori.pdf>
- ¹² Ministry of Education (2013). *Ka Hikitia Accelerating Success 2013–2017 – Māori Education Strategy*. Wellington: Ministry of Education. <http://www.minedu.govt.nz/theMinistry/PolicyAndStrategy/~media/MinEdu/Files/TheMinistry/KaHikitia/KaHikitiaAcceleratingSuccessEnglish.pdf>
- ¹³ http://www.wise-qatar.org/wise_award_finalist
- ¹⁴ <http://www.wise-qatar.org/content/te-kotahitanga>
- ¹⁵ OECD (2013). *PISA 2012 Results: What students know and can do – Student performance in mathematics, reading and science (Volume I)*. PISA, OECD Publishing. <http://dx.doi.org/10.1787/9789264201118-en> (pp. 55, 223).
- ¹⁶ Moore, P. (2006). Evidence Based Policy Project Report. Iterative Best Evidence Synthesis Programme. Wellington: Ministry of Education. http://www.educationcounts.govt.nz/_data/assets/word_doc/0004/103774/BES-Evidence-Based-Policy-Project-Report-August-2006-Penny-Moore.doc
- ¹⁷ Slavin, R. (2012). Presentation to Coburn, C. (Chair). (2012). *We know it works here. Can we make it work there?* Presidential session of the Annual Meeting of the American Educational Research Association. Vancouver, Canada.
- ¹⁸ Office of the Prime Minister's Science Advisory Committee. (2013). *The role of evidence in policy formation and implementation: a report from the Prime Minister's Chief Science Advisor*. Retrieved from <http://www.pmsa.org.nz/wp-content/uploads/The-role-of-evidence-in-policy-formation-and-implementation-report.pdf>
- ¹⁹ Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007), op. cit.
- ²⁰ Durie, M. (2001, February). *Hui Taumata Mātauranga: A framework for considering Māori educational advancement*. Opening address to the Hui Taumata Mātauranga. Turangi/Taupo.
- ²¹ Harker, R. (2006). *Ethnicity and school achievement in New Zealand: Some data to supplement the Biddulph et al (2003) Best Evidence Synthesis*. Report prepared for the Iterative Best Evidence Synthesis Programme, Wellington: Ministry of Education.

Note that for some time the prevailing view in educational policy was that the underachievement of Māori in New Zealand schooling could be explained by the socio-economic status of Māori students. This view does not hold up. In 2006 Professor Richard Harker carried out a reanalysis of two of New Zealand's largest studies of school effectiveness, the Smithfield study (23 secondary schools) and Progress at School (37 secondary schools). He found a substantial negative effect for Māori achievement after adjusting for both the socioeconomic status of the student's family and the school. The adjusted effect sizes for a Māori ethnicity/schooling effect were -0.45 and -0.48 in mathematics, -0.41 and -0.43 in English, and -0.52 and -0.60 in science. In other words, the interaction of Māori ethnicity with English-medium schooling in New Zealand has had a negative impact that is only partially explained by the socio-economic status of families or school-mix. Across the BESs

there is evidence that culture is central to the endeavour of teaching and learning. For further information see Alton-Lee, A. (2008). Making a bigger difference for diverse learners: The Iterative Best Evidence Synthesis Programme in New Zealand. In G. Wan, (Ed.). *The Education of Diverse Populations: A Global Perspective*. The Netherlands: Springer Science and Business Media.

- ²² Alton-Lee, A. *Quality teaching for diverse learners: How an evidence-based approach can help*. Keynote address to ACSA Forum, Melbourne, 23–24 May, 2005.
- ²³ Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling*. Wellington, New Zealand: Ministry of Education. <http://educationcounts.govt.nz/goto/BES>
- Aitken, G., & Sinnema, C. (2008). *Effective Pedagogy in the Social Sciences / Tikanga a iwi*. Wellington, New Zealand: Ministry of Education. <http://educationcounts.govt.nz/goto/BES>
- ²⁴ “Other” in this context signals the teacher’s inadvertent positioning of “we” as those of European heritage and “them” as those of indigenous heritage. This inadvertent “othering” has been found to have ongoing negative impacts on the identity and engagement of Māori students who find themselves excluded from the “we” of the classroom community. See:
Alton-Lee, A.G., & Nuthall, G.A., with Patrick, J. (1995), Reframing classroom research: A lesson from the private world of children. In G. Capella Noya, K. Geismar & G. Nicoleau (Eds.). *Shifting histories: Transforming Education for Social Change*. Cambridge, MA: Harvard Educational Review. Reprint series No. 26.
Alton-Lee, A. Town, T., Stevenson, M., Diggins, C. & Molloy C. (2001). Making a difference? A role/requiem for classroom research. *Unterrichts wissenschaft*, 3, 197–212.
- ²⁵ This comment was reported by the child’s mother, who was a teacher participant in a BES working group NZEI established in 2010 to engage with data on bullying and racism, given the finding in the 2006 Trends in International Mathematics and Science Studies (TIMSS) that Māori boys experienced exceptionally high levels of bullying by international comparisons.
- ²⁶ Data provided by Education Information and Analysis. Source: Ministry of Education’s 2012 July Roll Return. Thanks to Senior Analyst, Isaac Malpass, and Information Officer, Gil Preston 22 October 2013.
- ²⁷ An updated table is provided in the Technical Report.
- ²⁸ Ministry of Education (2013). Retention of students in senior secondary schools. Education Indicators. Retrieved 20 August 2013 from <http://www.educationcounts.govt.nz/indicators/main/student-engagement-participation/1955>
- ²⁹ School leavers with NCEA Level 2 or above. Education Indicators. Wellington: Ministry of Education. http://www.educationcounts.govt.nz/_data/assets/pdf_file/0019/6409/2012-Indicator-inID-1781.pdf
Updated Ministry of Education data show a rate of increase of 20.4% in NCEA attainment between 2009 and 2012.
- ³⁰ May, S., Cowles, S., & Lamy, M. (2013). *PISA 2012 New Zealand summary report*. Wellington: Ministry of Education.
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- ³² For example, Coburn, C. E. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher*, 32(6), 3–12.
- ³³ Slavin, R. (2012). Presentation to Coburn, C. (Chair). (2012). *We know it works here. Can we make it work there?* Presidential session of the Annual Meeting of the American Educational Research Association (AERA). Vancouver, Canada.
- ³⁴ Source documents cited in the above AERA session:
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Glennan, T., Bodilly, S., Galegher, J., & Kerr, K. (Eds.) (2004). *Expanding the reach of education reforms: Perspectives from leaders in the scale-up of educational interventions*. Santa Monica, CA: Rand Corporation.
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Nunnery, J. A. (1998). Research on educational innovations. *Journal of Education of Students Placed at Risk*, 3, 197–200.
Bodilly, S., Keltner, B., Purnell, S., Reichardt, R., and Schuyler Ikemoto, G. (1998). *Lessons From New American Schools’ Scale-Up Phase: Prospects for Bringing Designs to Multiple Schools*. Santa Monica, CA: RAND Corporation.
Elmore, R. F. (1996). Getting to scale with good educational practice. *Harvard Educational Review*, 66(1), 1–26.
Fullan, M. (2001). *Leading in a culture of change*. San Francisco: Jossey-Bass.
Stringfield, S., & Datnow, A. (1998). Introduction: Scaling up school restructuring designs in urban schools. *Education and Urban Society*, 30(3), 269–276.
Berends, M., Bodilly, S., & Kirby, S. (2002). *Facing the challenges of whole-school reform: New American Schools after a decade*. Santa Monica, CA: RAND.
Datnow, A., McHugh, B., Stringfield, S., & Hackler, D. J. (1998). Scaling up the core knowledge sequence. *Education and Urban Society*, 30(3), 409–432.
Stringfield, S., Datnow, A., Borman, G. and Rachuba, L. (2000). *National evaluation of core knowledge sequence implementation, Final Report*. Baltimore: Center for Research on the Education of Students placed at risk.
Ball, D. L. (1995). Transforming pedagogy: Classrooms as mathematical communities. A response to Timothy Lensmire and John Pryor. *Harvard Educational Review*, 65, 670–677.
- ³⁵ Te Kotahitanga is a theory-based reform in which mnemonics have been used deliberately to embed key reform ideas in the working memory of those involved.
- ³⁶ Robinson, V., Hohepa, M., & Lloyd C. (2009). *School Leadership and Student Outcomes: Identifying What Works and Why: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education. <http://educationcounts.govt.nz/goto/BES>
Aitken, G., & Sinnema, C. (2008). *Effective Pedagogy in the Social Sciences/Tikanga-a-iwi: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education. <http://educationcounts.govt.nz/goto/BES>
Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education. <http://educationcounts.govt.nz/goto/BES>

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- ³⁷ Timperley, H., Wilson, A., Barrar, H., & Fung I. (2007). *BES Case 7: Establish culturally responsive relationships with students to reduce educational disparities and raise achievement*. Retrieved from Education Counts website: http://www.educationcounts.govt.nz/_data/assets/pdf_file/0015/122514/Case-7-complete.pdf p. 263
- For more detail on the year 9 and 10 study, see Bishop, R., Berryman, M., Cavanaugh, I., Teddy, L., & Clapham, S. (2006). Te Kotahitanga Phase 3 Whakawhanaungatanga: Establishing a culturally responsive pedagogy of relations in mainstream secondary school. Ministry of Education Research Division. Wellington, pp. 173–177. Retrieved from: www.educationcounts.govt.nz/publications/homepages/te-kotahitanga/index.html
- ³⁸ Meyer, L., Penetito, W., Hynds, A., Savage, C., Hindle, R., & Sleeter, C. (2010). *Evaluation of Te Kotahitanga: 2004-2008* Wellington: Ministry of Education. http://www.educationcounts.govt.nz/_data/assets/pdf_file/0009/78966/955_TK-Evaluation_V2-16082010.pdf
- ³⁹ *ibid.*
- These evaluators concluded: "There is evidence of enhanced student retention leading to increases in Māori student enrolment in the senior school. In real numbers, there is an average increase in the Y11 Māori student enrolment of approximately 250% from 2005 to 2008 at Te Kotahitanga schools" (p. 104).
- ⁴⁰ *ibid.*, p. 4.
- ⁴¹ *ibid.*, p. 3.
- ⁴² Bishop, R., Berryman, M., Wearmouth, J., Peter, M. & Clapham, S. (2011). *Te Kotahitanga: Maintaining, replicating and sustaining change. Final Report for Phase 3 and Phase 4 Schools: 2007–2010*. Wellington: Ministry of Education. http://www.educationcounts.govt.nz/_data/assets/pdf_file/0007/105838/988_TeKotahitanga.pdf
- ⁴³ Bishop, R., Berryman, M., Wearmouth, J., Peter, M. & Clapham, S. (2011). *A summary of Te Kotahitanga: Maintaining, replicating and sustaining change in Phase 3 and 4 schools*, p. 28. Wellington: Ministry of Education.
- ⁴⁴ Bishop, R., Berryman, M., Wearmouth, J., Peter, M. & Clapham, S. (2011), *op. cit.*, p. 6.
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- ⁴⁷ Te Kotahitanga Research and Professional Development Team (2012, March). Te Kotahitanga Milestones 11 and 32, March 2012. University of Waikato: Hamilton.
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- ⁴⁹ The total number of Māori students attending Phase 5 schools from 2010 to 2012 excluding those in Alternative Education and Teen Parent Units was 11,121.
- ⁵⁰ As for the NCEA analyses, data are from the Ministry of Education's ENROL database. Included are Māori students repeating a year level and those who left to go overseas. Excluded are students in Teen Parent Units and Alternative Education.
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- ⁵² Section 155, 156, and kura teina secondary schools have not been included in the comparison group.
- ⁵³ See Technical Report by S. Martin (2013), *op. cit.*
- ⁵⁴ In this school the Māori achievement rate for NCEA level 2 progressively declined from 2009 (66.7%) through 2010 (56.3%), 2011 (52.4%) and 2012 (50%).
- ⁵⁵ Te Kotahitanga Milestone 10 (September 2011), p. 16.
- ⁵⁶ Hattie, J. (August 16, 2013). Formative quality assurance feedback: Technical Report – Phase 5 time series. University of Melbourne, Australia.
- ⁵⁷ Data provided in email communication to the author by Margaret Egan (Phase 5 team), 21 July 2013. See also Te Kotahitanga Milestone 14 (December 2012).
- ⁵⁸ Bishop, R., & Berryman, M. (2006). *Culture speaks: Cultural relationships and classroom learning*. Wellington: Huia Publishers.
- ⁵⁹ Oral feedback given 31 July 2013 by William Colenso College students to representatives of the World Innovation Summit in Education. Transcribed by Adrienne Alton-Lee and used with permission.
- ⁶⁰ Uncued comment by a senior student to the author, expressing what Te Kotahitanga meant to her. William Colenso College, 31 July, 2013.
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- ⁶² 2013 data were not available at the time this report was being drafted.
- ⁶³ Ministry of Education (2013). *Positive Behaviour for Learning (PB4L): School-Wide Indicator Report*. Wellington: Ministry of Education.

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- ⁶⁸ *BES Case 7: Establish culturally responsive relationships with students to reduce educational disparities and raise achievement*. http://www.educationcounts.govt.nz/_data/assets/pdf_file/0015/122514/Case-7-complete.pdf
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- ⁷⁰ Bishop, R., & O'Sullivan, D. (2005). *Taking a reform project to scale: Considering the conditions that promote sustainability and spread of reform*. A monograph prepared with the support of Ngā Pae o te Maramatanga, the National Institute for Research Excellence in Māori Development and Advancement, Unpublished manuscript.
- ⁷¹ Bishop, R., O'Sullivan, D., & Berryman, M. (2010). *Scaling up education reform: Addressing the politics of disparity*. Wellington, New Zealand: NZCER.
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- Even though 'to know' is the core business of researchers, those with capability can remain invisible or unacknowledged, and the nature of expertise unspoken. Academic hierarchies and reward systems can be in tension with an improvement or applied research agenda, affording high status to 'armchair' critique, quantity of publications, recency, blue skies research, and theoretical originality, irrespective of usefulness or validity. Much research remains unconcerned with the validity of hypotheses about effectiveness in terms of impacts on diverse (all) learners, yet is influential in professional education. There needs to be a shift in the status that academia affords applied research and development, recognising:*
- *the theoretical complexity of such endeavours;*
 - *the calibre of expertise required to collaborate to accelerate improvement in situ in areas of educational need; and*
 - *the public good importance of high-impact R & D.*
- Often the how of improvement and the expertise that enabled improvements in practice are invisible in traditional research reports, where other concerns such as methodology become paramount. In following reporting conventions, for example, researchers can be silent about how their own knowledge, professional experience, and expertise mattered in what happened (p. 40).*
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- Berryman, M., & Glynn, T. (2001). Hei Awhina Matua: Strategies for bicultural partnership in overcoming behaviour and learning difficulties. Wellington, New Zealand: Specialist Education Service.
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- ¹⁰⁵ Phase 5 Extension and Phases 3 and 4 Re-activation: Milestone 15. Te Kotahitanga Research and Professional Development Team (2013). Unpublished report to the Ministry of Education. The University of Waikato, Hamilton, New Zealand. See also Milestone 18.
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- ¹⁰⁸ Discussed elsewhere in this report and documented in milestone reports to the Ministry of Education.
- ¹⁰⁹ Berryman, M., SooHoo, S. & Nevin, A. (Eds.) (2013). *Culturally responsive methodologies*. Bingley, UK: Emerald. pp. 389–406.
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- ¹¹¹ Personal communication, April 11, 2015.
- ¹¹² Berryman, M. (2014). Relational and culturally responsive indigenous approach to belonging and inclusion. In R. Wills, M. Morton, M. McLean, M. Stephenson & R. Slee (Eds.), *Tales from school: Learning disability and state education after administrative reform*. (pp. 199–211). Rotterdam, The Netherlands: Sense Publishers. p. 202.
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- ¹¹⁸ Berryman, M., Soohoo, S. & Nevin, A. (Eds.) (2013), op. cit., p. 270.
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- ¹²⁹ See for example, Robinson et al. (2009), p. 108 and Timperley et al. (2008), pp. 135–136.
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- ¹⁹⁰ 2013 data became available midway through 2014 but for various reasons we were unable to fulfil our original intention to update this report to include it.
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