

# Accelerating Success and Promoting Equity through the *Ako* (Note 1): *Critical Contexts for Change*

Mere Berryman<sup>1</sup> & Elizabeth Eley<sup>1</sup>

<sup>1</sup>School of Educational Leadership and Policy, Faculty of Education, The University of Waikato, Tauranga, New Zealand

Correspondence: Mere Berryman, School of Educational Leadership and Policy, Faculty of Education, The University of Waikato, Te Whiringa, 142 Durham Street, Tauranga 3110, New Zealand. Tel: 64-27-589-4577.

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## Abstract

Achieving equity and excellence for all young people remains the major challenge of education systems across the world. This paper contends that equity and excellence for students currently underserved by our system needs transformative school reform. In response, we outline the *ako: critical contexts for change*. This model has been applied across five dimensions for transformative reform within Kia Eke Panuku (Note 2).

This paper focuses on how this model can be understood and applied alongside curriculum implementation. We draw evidence from wider research of the impact on improving student achievement when individual aspects of the *ako: critical contexts for change* have been applied. We have found that when all three contexts are applied simultaneously and spread throughout the school, pedagogical reform can be accelerated, even for those students most underserved.

**Keywords:** indigenous, equity and excellence, critical contexts, transformative change

## 1. Introduction

We all want the best for our children and young people. We want to see them achieve educational success and to realise all the potential their future promises them. The promise of fulfilment and prosperous futures for our youth is inherent within many education systems throughout the world. The United States Department of Education has as its mission “to serve America's students - to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access” (U.S. Department of Education, 2010 p.2). In Australia, the Department of Education and Training has a vision to provide “*opportunity through learning . . . offering education and training opportunities that lead to a more equitable society*” (Department for Education and Training, 2015, p.2). Here in New Zealand, the vision of the Ministry of Education is to “lift aspiration, raise educational achievement for every New Zealander” (Ministry of Education, 2015).

Although we want this for our young people themselves, we know that attaining educational success has significant impact on employment opportunities and on income earnings. A substantial body of evidence in New Zealand (see Ministry of Education, 2016) shows that graduates with higher levels of education face lower risks of unemployment, and have greater access to further training opportunities and higher average earnings. An Organisation for Economic Co-operation and Development (OECD) investigation found that, in 2010, average earnings were 24% higher for New Zealand 25 to 64 year olds with a tertiary qualification in paid employment, compared to those whose highest qualification level was upper secondary or post-secondary non-tertiary. This difference in average earnings in New Zealand is lower than the average across OECD countries (55%). In 2010 in the United States, the average earnings of those with a tertiary qualification were 77 per cent higher than those without a tertiary qualification. Australia had a 35 per cent average earnings gap between these same two groups in 2009 (Organisation for Economic Co-operation and Development (OECD), 2012).

We also want our young people to experience education success because a country's economic wellbeing is strongly linked to the educational success of its children. A World Bank report concludes that, “there is strong evidence that the cognitive skills of the population are powerfully related to individual earnings, to the distribution of income, and to economic growth” (Hanushek & Wößmann, 2007, p.1). The World Bank provides

some modelling within their report, predicting the impact of successful school reforms (using the measure of ‘a moderately strong knowledge improvement’ as indicated by 0.5 standard deviation improvement in the Programme for International Student Assessments (PISA). They predict that the initial impacts on Gross Domestic Product (GDP) of a country take some time, allowing for both the reform to embed and for the young people within the system to grow up, receive their qualifications and enter employment. The modelling predicts a 10 per cent rise in a country’s GDP over about 20 years, with increasing rises over time: a 30 – 40 per cent rise over 40+ years, assuming expenditure on education remains constant (see Hanushek & Wößmann, 2007, p. 44-46).

## 2. Success for All

The evidence shows us that education visions for ‘all students’ are further challenged when children come from indigenous, poor or other diverse groups such as students with disabilities, those from particular religions or from families of recent immigrant (Berryman, Nevin, SooHoo, & Ford, 2015a, 2015b). However, for both private good and the public good, we want all of our young people to do well at school and attain the education qualifications that will lead to credentials that open opportunities for the future. In many countries there is clear evidence that the education system does not serve all children well (Alton-Lee, 2003). In the United States national data on student achievement in reading and mathematics continues to show significant differences between the students identified as White, and those identified as Black or Hispanic. For example, in the National Assessments of Educational Progress (NAEP) conducted in 2015, 43 per cent of students identified as White were rated as proficient or above in 8<sup>th</sup> Grade mathematics, compared to 13 per cent of Black and 19 per cent of Hispanic students. The results for 8<sup>th</sup> Grade reading are similar: 44 per cent of White students are rated as proficient or above, compared to 16 per cent of Black students and 21 per cent of Hispanic students (see Organisation for Economic Co-operation and Development, 2015 Mathematics and Reading Assessments, The Nation’s Report Card).

Data from Australia presents a similar picture. In the National Assessment Program—Literacy and Numeracy (NAPLAN) tests, conducted each May for all students across Australia in Years 3, 5, 7 and 9, there is a marked difference between students identified as Indigenous compared to Non-Indigenous students. In 2015, 79 per cent of Non-Indigenous students were rated as above the minimum standard in reading, compared to 44 per cent of Indigenous students. In numeracy, 84 per cent of Non-Indigenous students were rated as above the minimum standard, compared to 51 per cent of Indigenous students (see Australian Curriculum, Assessment and Reporting Authority, 2015).

In New Zealand our national statistics show that the Indigenous Māori students do not do as well within our schooling system as Pākehā (non-Māori of European descent). In 2015, 24 per cent of Māori left school with no formal school qualification compared with 8 per cent of New Zealand Pākehā school leavers (Ministry of Education, 2016). Pākehā students also perform better than Māori students in PISA testing (Organisation for Economic Co-operation and Development, 2004, 2007, 2010). In the 2012 PISA survey, while overall New Zealand achievement was above the OECD average in reading, mathematics and science, the achievement of Māori students was below both the New Zealand average and the OECD average (May, Cowles & Lamy, 2013).

This cursory scan shows a disconnection between the espoused visions of education bodies and the success of all within the systems, in particular racial minority students. The United States’ Department of Education has a vision of *educational excellence and ensuring equal access*, Australia looks to an education system that will lead to a *more equitable society* and New Zealand’s Ministry of Education has a vision to *lift aspiration, raise educational achievement for every New Zealander*. Clearly, if we are to realise these visions for all students, we must address the disparities in educational outcomes between different groups of students. The consequences of ignoring this disparity are too great, indeed “the gap in achievement has shifted from being an indicator of educational inequality to being a direct cause of socioeconomic inequality” (Harris, 2006, p.2).

## 3. The Education Debt

There has been a call for us to look past narrow measures of achievement gaps, to take a wider view of education debt (Ladson-Billings, 2006; Wolfe & Haveman, 2001). The achievement gap is defined as the disparity in educational outcomes between groups of students. Robert Havemen (cited in Ladson-Billings, 2006, p.5) defines education debt as:

the foregone schooling resources that we could have (should have) been investing in (primarily) low income kids, which deficit leads to a variety of social problems (e.g. crime, low productivity, low wages, low labour force participation) that require ongoing public investment.

The challenge is that the achievement gap, or at least aspects of the ‘gap’, is measurable and reportable, and therefore visible. The education debt is less able to be defined or measured, and therefore, is not in the public eye. In the words of Wolfe and Haveman (2001, p.2) “the literature on the intergenerational effects of education is generally neglected in assessing the full impact of education”. Ladson-Billing likens this to the income gap and wealth debt between Black and White Americans. Although the difference in incomes between Black and White Americans has reduced (from Black males earning 48 per cent of the average White male income in 1940 to an average of 78 per cent in 1993, see Margo, 1990), there is a cumulative effect of the income disparities. Ladson-Billings (2007, p.317) cites economists Joseph Altonji and Ulrech Doraszelski (2005) on the wealth debt who say:

The wealth gap between [Whites] and [Blacks] in the United States is much larger than the gap in earnings. The gap in wealth has implications for the social position of African Americans that go far beyond its obvious implications for consumption levels that households can sustain. This is because wealth is a source of political and social power, influences access to capital for new businesses, and provides insurance against fluctuations in labor market income. It affects the quality of housing, neighborhoods, and schools a family has access to as well as the ability to finance higher education. The fact that friendships and family ties tend to be within racial groups amplifies the effect of the wealth gap on the financial, social, and political resources available to [Blacks] relative to [Whites] (p. 1).

Ladson-Billings believes there are close parallels between the ‘wealth debt’ and the ‘education debt’. Indeed, the above quote seems true if we replace the word ‘wealth’ with the word ‘education’ – the on-going implications of education debt are far greater than the obvious implications of disparities in achievement.

If we continue to view the disparate achievement in New Zealand between Māori and Pākehā students as an achievement gap, we will continue to look for solutions that perpetuate a deficit paradigm and seek solutions where the failing (Māori) students will ‘catch up’. If we consider the “mountain of debt we have amassed at the expense of entire groups of people and their subsequent generations”, we then start to look at how we ‘pay down’ what we owe (Ladson-Billing, 2007, p.316).

There is no ‘quick fix’ to addressing the disparity of educational outcomes - as evidenced by the on-going story from across the world of poor outcomes for groups of students whose culture is not foundational to the education system in which they are situated. It would be simplistic to believe that the cumulative effect of intergenerational practices can be undone through a series of single actions – whole-scale education reform is required.

#### **4. The Need to Accelerate Student Achievement**

To truly make a difference for the groups of students that are under-served by our education system, we must focus on reform that will see these students thrive and flourish within the system. And, we must ensure these students make fast progress – unless they achieve an accelerated rate of success, the achievement disparity will remain. A clear call for making a difference for Māori students has been made by New Zealand’s Education Review Office (ERO). They say: “achieving equity and excellence in student outcomes is the major challenge for New Zealand education” (Education Review Office, 2016, p.5). In response to the Government’s Māori education strategy, *Ka Hikitia* - a call to action for all parts of the education system - ERO’s school reviews now start with a focus on Māori student achievement. The research that underpins the evaluation indicators for schools shows that the focus must be on accelerating the achievement of students for whom the system is currently not working. Importantly, when we do this “we also know that school and classroom practices that work for Māori are likely to improve outcomes for all” (Education Review Office, 2016, p.12). The explanation below draws on a New Zealand initiative for school reform – *Kia Eke Panuku: Building on Success*. *Kia Eke Panuku* was a whole school reform initiative that operated in 94 secondary schools across New Zealand from 2014 -2016. Through this initiative, we can demonstrate that our model (derived from the understandings gained and tested in previous research) presents the contexts for change needed to accelerate educational success – for Māori students and for all students.

#### **5. How Can We Accelerate Student Achievement?**

The *kaupapa* (central purpose) of *Kia Eke Panuku* was: *Secondary schools giving life to Ka Hikitia and addressing the aspirations of Māori communities by supporting Māori students to pursue their potential*. *Kia Eke Panuku* built on understandings gained from five previous programmes undertaken by three institutions: Te Kotahitanga; He Kākano; the Starpath Project for Tertiary Participation and Success; and the Secondary Literacy and Numeracy Projects. The genesis of these five programmes began in 2001, when researchers listened to the voices of young Māori students about what would engage them with learning (Bishop & Berryman, 2006). The

relational and culturally responsive pedagogy they described and upon which Te Kotahitanga began, was indeed capable of engaging students with learning and subsequently the participation and achievement of Māori students in some of the participating schools began to improve (Bishop, Ladwig, & Berryman, 2014).

It soon became clear however, that changing classroom pedagogy alone was, in itself, not sufficient for all schools to become more relational and culturally responsive and thus more effective for their Māori students. Involving school leadership and student management systems were prioritised next as a complex system of school reform began to emerge (Bishop, O'Sullivan, & Berryman, 2010).

By 2012 Māori student academic achievement showed significant benefits across all Phase 5 Te Kotahitanga schools. As well, students' academic achievement also demonstrated a clear cost-benefit in terms of what was achieved against revenue spent (Alton-Lee, 2015). In 2013, New Zealand's Ministry of Education proposed a formal opportunity to develop an entirely new programme of work built upon the understandings from these five previous projects. Under the Ministry of Education's Building on Success programme, Kia Eke Panuku was conceptualised and the work with schools began.

When schools first committed to being part of Kia Eke Panuku, they embarked on a journey of collective responsibility, accountability and commitment to transformative school reform. The solution is not a simple one with no single-intervention solutions to 'fixing' the student achievement disparity problem. Schools must be willing to disrupt their current status quo with regards to these students and look to reform across all aspects of school life and their prevailing school culture.

This need for a complex response is well understood. A World Bank investigation concluded that "simple resource policies – reducing class sizes, increasing teacher salaries, spending more on schools, and so forth – have little consistent impact on student performance when the overall institutional structure is not changed" (Hanushek & Wößmann, 2007, p.79). Berryman et al (2016, p.64) found that although "the good intentions of policy-makers, school leaders and teachers, and a number of discrete interventions aimed at *fixing the Māori student problem*, may be necessary conditions for change, they are not in themselves sufficient". They concluded that to make a difference for minority students, there is a need for both a policy mandate for reform and for a change in the attitudes of those who must lead the policy implementation.

## 6. Method for Study

In reconceptualising Kia Eke Panuku as a new programme of work, literature and reports that had emerged from the five previous programmes were studied. This helped to develop overall understandings about what might reform schools to work more effectively for Māori students. Experienced educational researchers, who had also worked in some of the previous programmes or who understood the contexts of this work and had researched with Māori communities, contributed to the identification of five levers for reform as discussed next.

Emerging understandings from the implementation of the Kia Eke Panuku reform levers underscored the need to also focus on the contexts of the reform. Researchers then hypothesised the following model that was presented to the eight Kāhui Whakaako (Note 3) schools for testing and wider distribution. These schools have now tested this model and with their help it has begun to spread to the other schools for further testing and consideration. In this next section, the reform levers, the model and evidence that emerged from the study of the previous programmes in support of the model are presented and explained.

## 7. Ako: Critical Contexts for Change

The three contexts for reform (see figure 1 below) are culturally responsive and relational practices in all aspects of school life; deliberate professional acts applied with adaptive expertise, and home, school and community collaboration. When these three contexts are considered, there is a focus on simultaneous success trajectories - both a student achievement goal as measured by success in national qualifications and the policy context goal of succeeding without compromising the learner's language, culture and identity. On their own, the careful attention to and application of principles around any of the individual three contexts can make a difference for students and improve their subsequent educational success. Accelerated achievement for marginalised students occurs when school leaders and teachers deliberately attend to all three contexts at the same time.

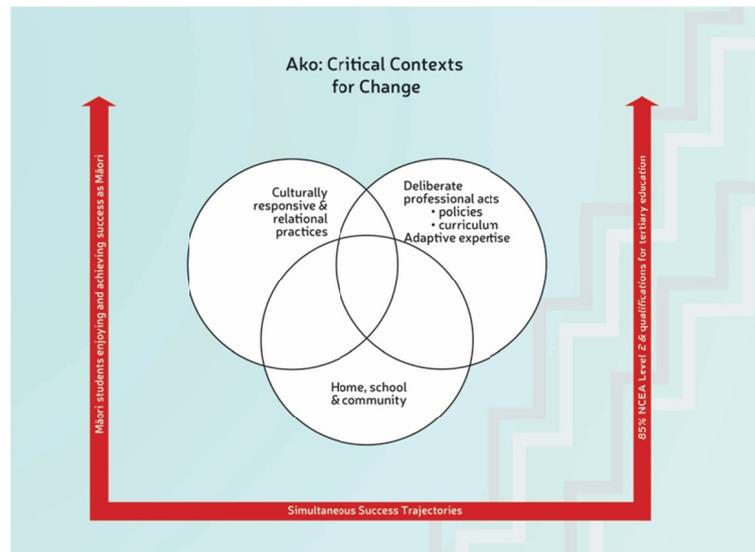


Figure 1. Ako: Critical contexts for change

These three contexts do not occur in isolation, they are attended to across all five levers that underpinned the reform programme within Kia Eke Panuku schools. The five levers are:

1. Transformative leadership
2. Evidence-based inquiry
3. Culturally responsive and relational pedagogy
4. Educationally powerful connections with home communities
5. Literacy, *te reo Māori* (the language of Māori) and numeracy across the curriculum

For systemic and on-going reform in any or all of these levers, schools engage with all three contexts for change, simultaneously and with complementary and interdependent actions. In so doing the reform can be enhanced and accelerated across the systems and institutions within schools, but also from school to community and from school to school.

It is expected that this model is responsive to each school's evidence (both qualitative and quantitative) of Māori students' participation and achievement and their community's aspirations for the future potential of their children and young people. Individual contexts may be being partially or more fully engaged with, depending upon where the school and the teachers are positioned. Boundaries surrounding these contexts must become permeable so that participants are open to knowledge creation through critical reflection and sharing of new knowledge, resources and practices.

For example, when addressing aspects of school reform within the lever of transformative leadership, schools consider their actions within the context of critical self-review promoting their own resistance to actions that perpetuate disparities:

- culturally responsive and relational practices – how are we ensuring culturally responsive and relational praxis across our leadership actions, decisions and attitudes?
- deliberate professional acts applied with adaptive expertise – what are the deliberate professional acts and/or strategies for transformative leadership that we are undertaking? Are we adaptively responsive to situations so that we make informed decisions about when, or where, or how we will apply these?
- home, school and community collaboration – how do we ensure respectful and collaborative partnerships with *whānau* (family), *iwi* (tribal groups) and other Māori communities to both provide leadership within our school and enhance leadership actions within our structure?

The same applies to all other levers for reform: the three contexts for change are attended to when considering evidence-informed inquiry; culturally responsive and relational pedagogy; educationally powerful connections with *whānau* and *iwi* and to curriculum implementation by incorporating literacy, *te reo Māori* and numeracy

across the curriculum.

### *7.1 The Dimension of Literacy, te reo Māori and Numeracy*

Kia Eke Panuku facilitators seek opportunities to provide support for schools around curriculum implementation in the areas of literacy, numeracy and te reo Māori so that these can occur naturally across all areas of the curriculum. Literacy, te reo Māori and numeracy are regarded as foundational skills that students need if they are to unlock the curriculum. Proficiencies in these skills enable Māori students to express their language, culture and identity in order to access a full range of vocational and/or academic pathways and enjoy and achieve their educational potential by succeeding as Māori. Specific subject-focused curriculum interventions may form part of individual school's action planning for reform and the contexts for change can be applied. However, the focus of this discussion is on the foundational skills of literacy and numeracy, and the role of school respect for te reo Māori as an outworking of acknowledgement that New Zealand is a bilingual and bicultural country. The discussion below draws from evidence of literacy and numeracy achievement to showcase the impact of attending to the first of the three, critical contexts for change.

## **8. Culturally Responsive and Relational Practices**

Culturally responsive and relational practices can be applied to all aspects of school life. In Kia Eke Panuku these practices mean that a deliberate focus is on Māori students enjoying, participating and engaging in schooling as Māori. This means they should be able to use their own *cultural toolkit* (Bruner, 1996) or prior knowledge and experiences to make sense of and understand the curriculum. It also means they are able to leave school with pride in their own cultural identity and with qualifications that provide them with real choices for their future. Simultaneous success trajectories such as these are more likely to be achieved when educators (school leaders, management teams, teachers, trustees) create and share contexts for learning where:

- Relationships of care and connectedness are fundamental to engaging with learners
- Power is shared and learners have the right to equity and self-determination
- The learner's cultural understandings form the basis of their identity and learning
- Sense-making is dialogic, interactive and on going
- Decision-making and practice is responsive to relevant evidence
- Our common vision and interdependent roles and responsibilities focus on the potential of our learners – Māori enjoying and achieving educational success as Māori.

This has implications for educators learning with and alongside their peers or other professionals, as well as educators learning with and alongside their Māori students - at whatever level of schooling or whichever area of the curriculum. The evidence showed that student achievement in literacy and numeracy increased when culturally responsive and relational practices underpinned the practices of the school and its community.

### *8.1 Evidence of the Impact on Improved Student Outcomes in Literacy and Numeracy*

The evidence in this section is drawn from Te Kotahitanga (Bishop et al, 2013). A wide-ranging external evaluation of Te Kotahitanga in Phase 5 schools presents considerable data showing the effectiveness and impact of this intervention. The analysis showed that the achievement of Māori students in the National Certificate of Educational Achievement improved at three times the rate of Māori in the comparison schools, the evaluators conclude that "impacts of this magnitude are rare in large-scale reforms" (Alton-Lee, 2015, p.5). The data presented below shows student achievement in literacy and numeracy in Phase 3 Te Kotahitanga schools. The data reports the impact across the full cohort of students; these are not students selected because they were receiving targeted or specific literacy or numeracy interventions. The common experience was that groups of their teachers were being supported to incorporate culturally responsive and relational pedagogy into their classroom practices.

#### 8.1.1 For Literacy

The results below have been published in a report to the New Zealand Ministry of Education (Bishop, Berryman, Cavanagh, & Teddy, 2007, p.180). Student achievement in literacy was assessed using the Secondary Essential Skills Assessment (ESA) (Note 4).

Te Kotahitanga staff administered ESA, following the set conventions, across the majority of Year 9 and 10 students in 12 schools. Pre and post-testing was undertaken in 2004 and 2005. A trained Te Kotahitanga data analyst undertook all scoring and analysis. At the time ESA did not have a standardised disaggregation for the sample of students Māori to non-Māori. However, the students in this analysis were the sample who

self-identified as Māori and who achieved in the lowest three stanines at the pre-test. For the purposes of this analysis, data from these students were matched from pre to post-test.

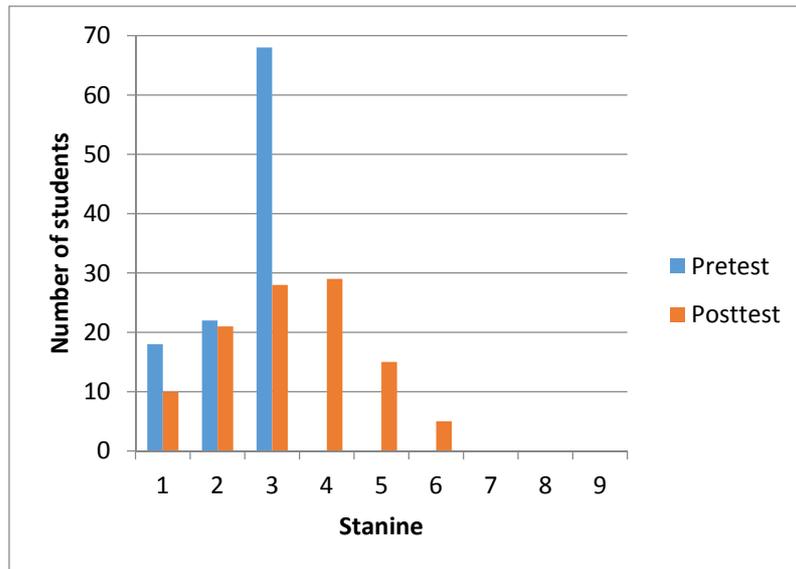


Figure 2. Secondary essential skills assessment results, 2004, Te Kotahitanga Phase 3 and 4 schools

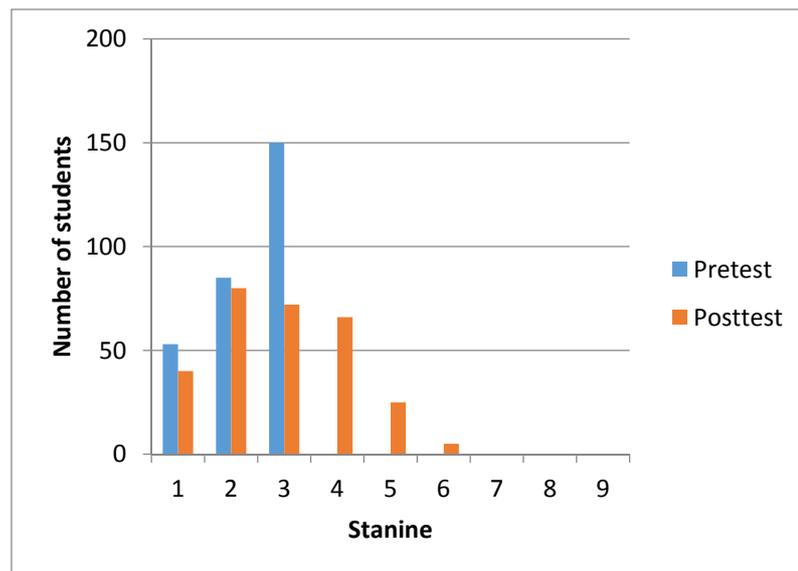


Figure 3. Secondary essential skills assessment results, 2005, Te Kotahitanga Phase 3 and 4 schools

As can be seen, there was a marked improvement for these students in literacy achievement in both 2004 and 2005. The results showed statistically significant improvement (at least more than one stanine above expected achievement) when the teachers of these students implemented culturally responsive and relational practices in their teaching and learning.

### 8.1.2 For Numeracy

The impact of culturally responsive and relational practices on student numeracy in Phase 3 and 4 Te Kotahitanga schools can be seen in the results of the asTTle (Note 5) mathematics assessments, compared with a matched pair sample (Bishop, Berryman, Wearmouth, Peter, & Clapham, 2011). Year 10 students were tested at the beginning and end of the year from 2007 to 2009.

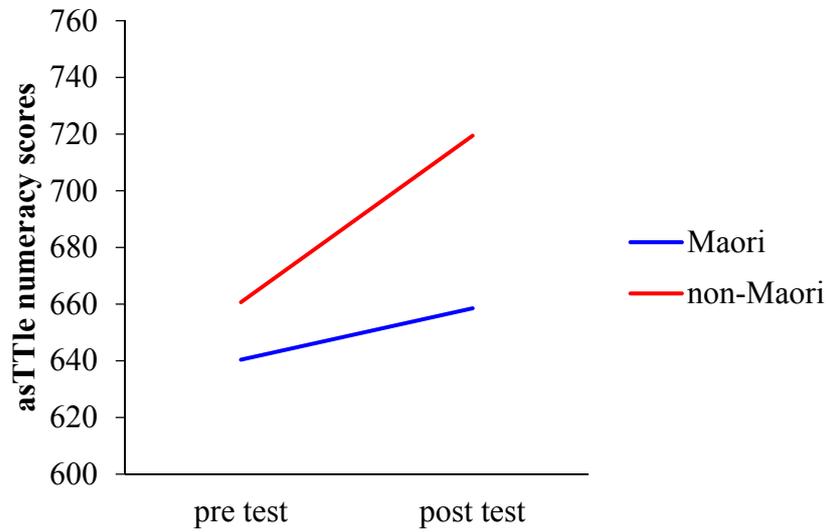


Figure 4. 2007 asTTle numeracy results for Year 10 Māori and non-Māori students – Te Kotahitanga Phase 3 and 4 schools

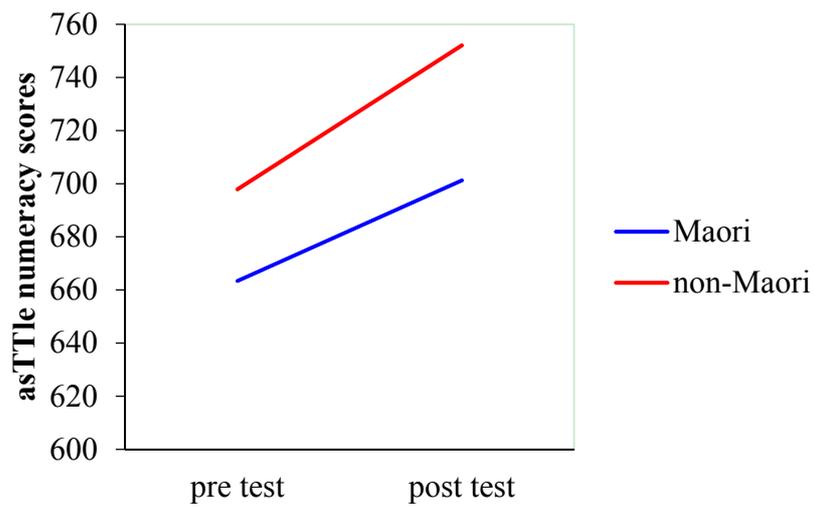


Figure 5. 2008 asTTle numeracy results for Year 10 Māori and non-Māori students – Te Kotahitanga Phase 3 and 4 schools

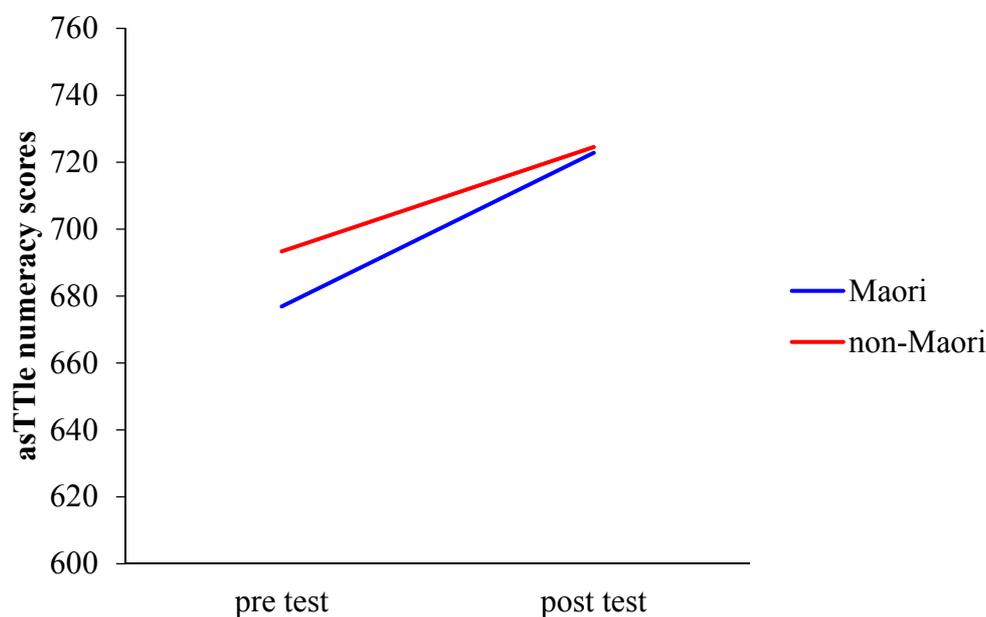


Figure 6. 2009 asTTle numeracy results for Year 10 Māori and non-Māori students – Te Kotahitanga Phase 3 and 4 schools

As for literacy achievement, applying culturally responsive and relational practices within mathematics classrooms led to improved results for students in numeracy. Te Kotahitanga aimed to introduce culturally responsive and relational practices to a third of the schools' teachers over three years. As more teachers, and in this case the cohort were teachers of mathematics, became involved over the three-year period, the numeracy results showed statistically significant improvement for successive cohorts of new students. These results were disaggregated for Māori and showed a greater rate of achievement for Māori than for non-Māori. The gap, between Māori and non-Māori achievement began closing in the second year, and by the third year, there was marginal difference between Māori and non-Māori.

### 9. Deliberate Professional Acts with Adaptive Expertise

In the *ako: critical contexts for change* model, there is a requirement for the professionals within the school (e.g. the teachers, the Principal, the Heads of Department) to deliberately choose and use strategies in order to improve outcomes for students. We call the strategies used Deliberate Professional Acts – these are deliberate steps taken by the professionals in the school, in response to evidence gathered and analysed in order to meet the identified needs – in this case, the literacy, te reo Māori or numeracy needs of the students. The *ako: critical contexts for change* model calls for the Deliberate Professional Acts to be applied with adaptive expertise. That is, a professional decision about how and when to use a particular strategy, and with whom, is made in response to the evidence of individual students' required next learning step.

#### 9.1 Evidence of the Impact on Improved Student Outcomes in Literacy and Numeracy

The impact of individual strategies on student achievement in literacy and numeracy can be found in the multitude of research or evaluation reports of individual interventions or strategies. One example is the application of deliberate strategies to improve the literacy and numeracy strategies of secondary schools students as found in the results from the Secondary Literacy Project and the Secondary Numeracy project.

The Secondary Literacy Project was a Ministry of Education funded professional development initiative in cross-curricular secondary school literacy (reading and writing). Each participating school received support over a two-year period. Thirty schools participated from 2009–2010 (Cohort 1), and another thirty from 2010–2011 (Cohort 2). The Secondary Numeracy Project, offered professional development to teachers of year 9 mathematics classes and was introduced into 42 secondary schools in 2005. These teachers received continued support in 2006 and 2007.

The findings of the evaluations of the Secondary Literacy Project and the Secondary Numeracy Project are provided below.

### 9.1.1 Secondary Literacy Project

In order to increase achievement, the Secondary Literacy Project focussed on the reading and writing skills of Year 9-10 students. The aim was to develop the subject-specific literacy skills and knowledge needed in order to succeed at school and beyond. The Secondary Literacy Project promoted deliberate professional acts applied with adaptive expertise.

There was wide variation in the implementation of the Secondary Literacy Project and the range of interventions used (see McNaughton, Wilson, Jesson, & Lai, 2013, p.6). One specific intervention was the use of the Focus Class strategy, classes consisting of mainly lower achieving students. At Year 9, Māori students in Focus Classes made significantly greater gains than Māori students not in Focus Classes in the same school. This amounted to a 44% increase over expected gain (31 e-aRTile (Note 6) Reading Scores or 31 e-aRs) by those in Focus Classes, compared with a less than expected gain (20 e-aRs) by those not in Focus Classes.

A similar pattern occurred at Year 10 where Māori students in Focus Classes made significantly greater gains (28 e-aRs), which were close to four times more than Māori students not in Focus Classes (8 e-aRs) and were within expected curriculum levels. The authors concluded that this is a very significant educational finding (McNaughton et al, 2013, p.6).

### 9.1.2 Secondary Numeracy Project

The Secondary Numeracy Project emphasised the use of mental computational strategies to solve numeric problems and aimed to help students develop a deeper understanding of mathematics. Year 9 students in Secondary Numeracy Project schools in 2006 are reported for three strategy domains – additive, multiplicative and proportional (Harvey & Higgins, 2007). Each of these domains is divided into eight stages. Students made progress on all three strategy-domains, with the percentage of students rated as at least stage (7 advanced multiplicative) increasing from 8% to 22% on the additive domain, from 24% to 43% on the multiplicative domain, and from 34% to 50% on the proportional domain between the initial and final assessments. Correspondingly, the percentages of students still rated as using stage 4 or below (counting strategies) decreased from 15% to 5%, from 16% to 5%, and from 18% to 6%, on the additive, multiplicative, and proportional domains respectively (Tagg & Thomas, 2007, p.37).

## 10. Powerful Home-School and Community Collaborations

Since 2003, specific research detailing the extent to which whānau involvement can influence an improvement in learning outcomes has been reported in the Leadership Best Evidence Syntheses (Robinson, Hohepa, & Lloyd, 2009). In addition, Alton-Lee, Robinson, Hohepa and Lloyd (2009), drawing on extensive research, examined the impact of whānau-school collaboration on student achievement and found that certain kinds of school and family connections and interventions can have large positive effects on the academic and social outcomes of students. Three examples of connections that made the largest positive difference included a joint parent/whānau and school intervention where learning interventions were simultaneously implemented in the school and home settings. Teacher designed interactive homework with parents and the incorporation of whānau and community funds of knowledge also had a large positive impact. The joint parent/whānau and school interventions detailed in the leadership BES, that had the highest positive effect for students in all of the studies examined in the leadership BES, were the culturally responsive relationships developed with schools in literacy research undertaken by the Poutama Pounamu Education Research and Development whānau (Alton-Lee, Robinson, Hohepa, & Lloyd, 2009; Berryman, Ford, & Egan, 2015).

### *10.1 Evidence of the Impact of Home School Partnerships on Improved Student Outcomes in Literacy and Numeracy*

Evidence of the impact of powerful home-school partnerships for improved literacy achievement was identified in Hattie's (2009) visible learning meta-analysis. Hattie reported that, not only were simultaneous home and school interventions, three times more effective than good teaching but that the effect was observed much more quickly – within a 10 week timeframe, not the one year timeframe of the teaching alone impacts. The Best Evidence Synthesis reinforces Hattie's findings on the efficacy of home-school partnerships - showing increased student achievement directly linked to whānau involvement with student learning. Of the top six most effective practices (the only six above the 0.4 or more effect size), five of these relate to home-school partnerships.

## 11. Accelerating the Reform

From these studies we can see the impact of attending individually to each aspect of the ako: critical contexts for change:

1. culturally responsive and relational practices across the school
2. deliberate professional acts applied with adaptive expertise, and,
3. powerful home-school collaborations.

In *Kia Eke Panuku: Building on Success*, schools looked to reform across all three contexts. Even in these very early days (two years or less engagement with *Kia Eke Panuku* in most of the secondary schools) there are pleasing signs of accelerated progress for students. As part of an independent evaluation, a survey of the Principals of *Kia Eke Panuku* schools was conducted as at the end of 2015 - schools having been part of *Kia Eke Panuku* for either four school terms (one school year); six terms or seven terms. Of the 72 Principals who responded (the survey was posted to 91):

- 93% report their school involvement in *Kia Eke Panuku* has contributed to Māori students' improved enjoyment of being at school
- 93% report their school involvement in *Kia Eke Panuku* has contributed to the improved engagement of Māori students
- 88% report their school involvement in *Kia Eke Panuku* has contributed to the improved retention of Māori students
- 90% report their school involvement in *Kia Eke Panuku* has contributed to the improved academic achievement of Māori students.

## 12. Conclusion

The goal of education systems across the world is to equip all citizens for future educational success bringing advantages for both individual citizens and for societies. Despite these goals, in many jurisdictions, there remains, groups of students for whom the system is not working. And, sadly, we see in many countries, persistent disadvantage for students of colour. In the United States, while it is difficult to find evidence of the educational achievement of indigenous populations, Black Americans and Latino/Latina students are over-represented in negative statistics around educational achievement, in Australia it is Indigenous (Aboriginal and Torres Straits) students, and in New Zealand, Māori student achievement remains of concern.

There have been many policies, strategies, initiatives and interventions designed to address the disparities of educational attainment by groups of students. Through national testing and reporting, we have become highly proficient at identifying the achievement gaps, measuring them with increasing precision – and reporting them with increasing speed. Our educational landscape is cluttered with responses to the achievement gaps. However, the efforts to address the persistent under-achievement of groups of students have not resulted in deep, sustained accelerated improvement for large, consistently identified, cohorts of students. Instead, despite the good intentions of teachers and policy makers, the focus on achievement gaps has led to deficit theorising around these students and practices that continue to pathologize them. Once students are targeted and labelled as 'achievement gap problems', our solutions focus on how we must fix the student.

This can result in two consequences. Firstly, the messages (either explicitly stated or implicitly implied) that some groups of students are just not as good as other groups become widespread and accepted across society as the truth. The second consequence is that our solutions rely on remedial programmes – students are required to do more of what they have already been doing, often delivered by the same people who delivered it first or by less well-trained paraprofessionals. Paradoxically, we hope that by doing more of the same, and doing it more efficiently, we will get totally different results.

This paper has argued that, rather than searching for ways to 'repair' students, we need to take a wider system view. Our contention is that groups of students are underserved by our education system, therefore, we need to address the systemic issues. Decades of altering specific aspects of curriculum, of pedagogy, of school leadership or administrative systems have not brought about large-scale change for students who are being educated within a culture that is not their culture. We need to look at widespread reform.

Through *Kia Eke Panuku*, schools critically (by examining the out-workings of power dynamics) review their actions and responses across multiple dimensions of school life. But, just reviewing what we do and looking for ways to improve, does not bring about systemic change. The contexts for change must also be addressed. The *ako*: critical contexts for change are:

1. culturally responsive and relational practices across the school

2. deliberate professional acts applied with adaptive expertise, and,
3. powerful home-school collaborations.

The early promise is that, when school reform is undertaken within these contexts for change, it is making a difference. The outcomes for all students are improving – and we are seeing an accelerated improvement for Māori students – those underserved by the current system. We can accelerate the learning to promote a more equitable difference for our most vulnerable students – and we must if we are to begin to redress the educational debt we owe these students and their families.

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**Notes**

Note 1. Ako is a Māori term found in both akonga (learner) and kaiwhakaako (teacher); Ako infers the cultural responsibility and reciprocity of learners (and teacher) involved in shared, conjoint construction of new understandings, skills and knowledge.

Note 2. Kia Eke Panuku: Building on Success is a short term, secondary school reform initiative that was fully funded by the Ministry of Education. While this paper represents the view of the authors, we acknowledge it is not necessarily the view of the Ministry.

Note 3. Kāhui Whakaako formed one of two advisory groups in Kia Eke Panuku, comprising leaders from eight schools. The name establishes this as a group (kāhui) who wish to contribute to and engage in on-going learning (whakaako).

Note 4. ESA is an assessment based on finding information in prose text consisting of skimming and scanning for information and notetaking and organising information.

Note 5. asTTle is an assessment tool, developed to assess students' achievement and progress in reading, mathematics and writing. The mathematics assessments have been developed primarily for students in years 5–10, but because they test curriculum levels 2–6 they can be used for students in lower and higher year levels.

Note 6. The online version of the asTTle assessment programmes.

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