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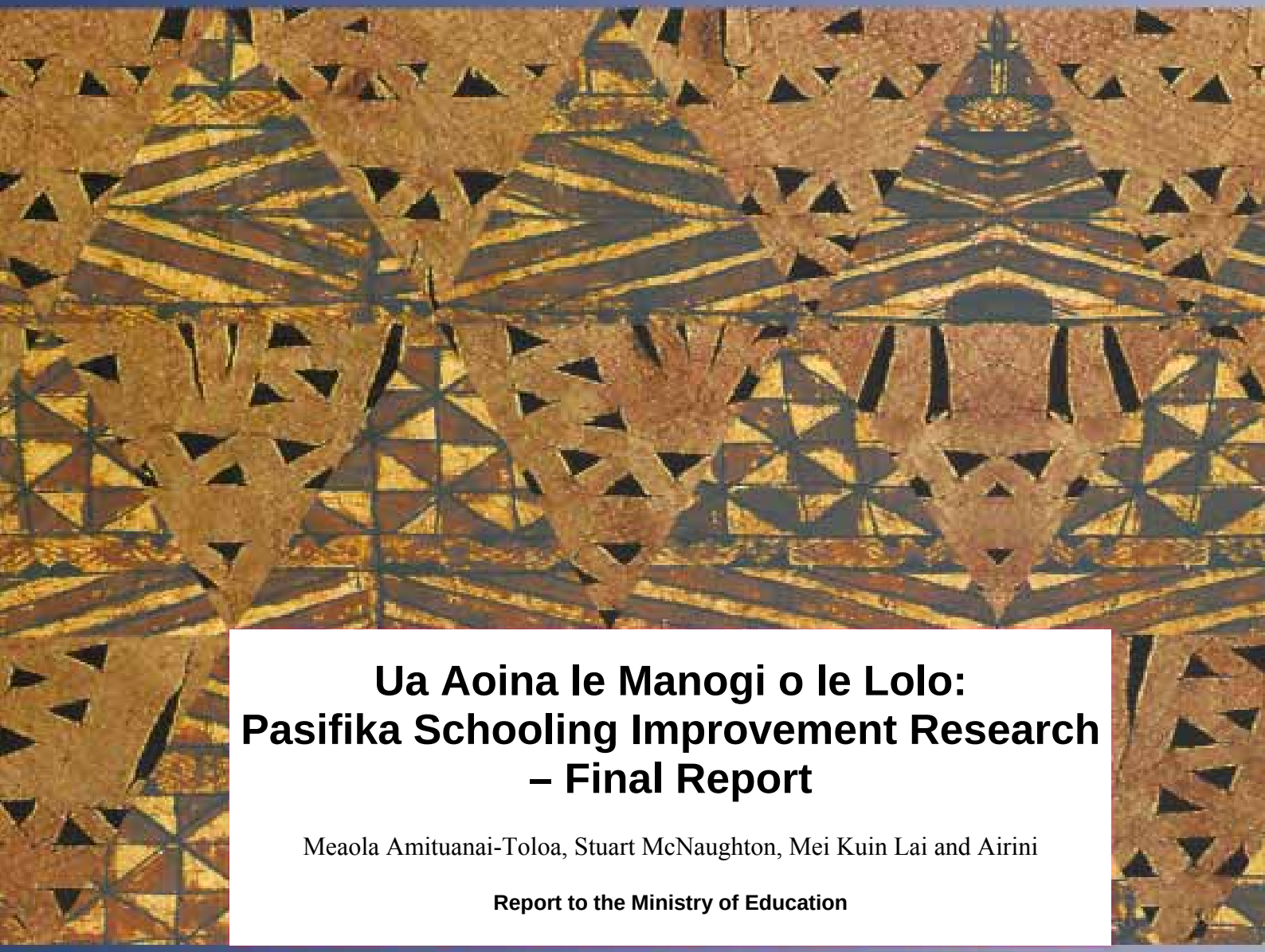

Ua Aoina le Manogi o le Lolo: Pasifika Schooling Improvement Research – Final Report

Meaola Amituanai-Toloa, Stuart McNaughton, Mei Kuin Lai and Airini

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Ua Aoina le Manogi o le Lolo

Pasifika Schooling Improvement Research

Final Report

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Prepared for:

Ministry of Education Project Office
Level 1, 22 Amersham Way
Manukau City

Attn: Susan Warren

Prepared by:

Meaola Amituanai-Toloa, Stuart McNaughton, Mei Kuin Lai, and Airini
with
Rolf Turner, Deborah Widdowson, Rachel McClue, Selena Hsiao, and Maryanne Pale

WOOLF FISHER RESEARCH CENTRE
FACULTY OF EDUCATION
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This large multi component project was reliant on many people. We use the Samoan metaphor in the title 'Ua aoina le manogi o le lolo' (the different fragrances of the oil are deemed gathered) to express what this project had been about – examining the effects of the different layers of the learning community on Pasifika achievement. We therefore wish to acknowledge the substantial contribution that different groups in the practice and learning community have made to the successful completion of the research project. It is hoped that this project will make a productive contribution to the Ministry of Education's future plans for the achievement of Pasifika students in Aotearoa, New Zealand.

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Feiloa'iga

O le vi'iga ma le fa'afetai i le Atua e maualuga lea. E maualuga fo'i ona manatu ma ona ala uma.

E faatalofa atu i le paia ma le mamalu o le Atu Polenisia ma le Pasefika atoa o alala ma papa aao i Aotearoa nei.

Afio mai lau Afioga a le Sa'o a le ofisa o A'oga i Aotearoa.

Afio mai lau Afioga a le ali'i Pule of le Matagaluega o Fa'aleleia o A'oa'oga i Manukau

Afio mai lau Afioga Tui Samoa

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Afio mai fakatulou atu kite mamalu o Tokelau

Afio mai ki a mutolu oti o Niue

I Susuga a Pule A'oga ma le nofo a Faia'oga

I Susuga a le Au lagolago i lenei galuega

Le mamalu o le Atu Pasifika i Niu Sila nei.

Ua faa'malō faafetai i le tofā mamao ma le silasila i le lumanai aua alo ma fanau a le Pasefika o loo utuvai ma a'otauina ai mo lo latou lumanai ia manuia ma soifua maloloina i le tino, mafaufau ma le agaga. Faafetai tele lava i lo outou talisapaia o le faatalauula atu ma le augani atu a le Matagaluega o Aoga i Aotearoa nei, aua lava le tapu'eina ma le faafaileleina o alo ma fanau a le Pasefika i itu tau a'oa'oga, ia taunuu o latou faamoemoega ma sini atu o moemiti i ai. E faafetai atu foi ia i latou uma na fesoasoani ma tuufaatasia lenei faamoemoe i soo se itu, ua taunuu ai ma le manuia. Faafetai tele le agalelei.

Executive Summary

The Purpose of the Project

The current project focuses on the effectiveness of Schooling Improvement initiatives for Pasifika. The purposes were to identify the practices that work to raise achievement and close the gaps for Pasifika students especially at the classroom, school and cluster levels; to find out how effective existing Schooling Improvement initiatives are in raising achievement for Pasifika students; and to provide information to help existing and new initiatives to improve their effectiveness for Pasifika students.

Two overarching research questions were asked:

1. What works in schools for Pasifika students and under what conditions?

2. What are the barriers to schools achieving positive learning outcomes for Pasifika students?

The Process

In this report we evaluate the initiatives using a three-step process. First we summarise the general achievement data across nine interventions that have high numbers of Pasifika students. This is followed by a close analysis of a Focus Cluster, in which we use detailed statistical procedures to examine features of students such as language status, gender and ethnicity to answer questions about the patterns of effects for Pasifika students. Essentially this section provides some insights into the question of whether interventions are meeting the needs of Pasifika students or if there are limited areas of effects.

This is followed by systematic case studies that provide quantitative and qualitative data on several general hypotheses at the level of school effects. The hypotheses were: that schools that are more connected with their communities will generally be more effective; that schools that have well embedded inquiry practices and have a heightened sense of collective efficacy will be more effective; that schools in which instruction has specific features of quality and is culturally responsive (developing distinctive approaches for Pasifika learners) will be more effective; and lastly, that there will be some attributes of students which are associated with greater gains and levels of achievement, probably relating to language status and familiarity with the New Zealand educational system. Also, that students' beliefs and values relating to teaching and learning will provide further evidence of the features of schools that are likely to be more effective. In this last section we add the voices of students, their parents, teachers and Principals to provide rich and integrated tests of these hypotheses.

In addition to the above, because we were able to survey students, teachers and leaders from clusters, we also have general descriptions of features of language status across schools, aspects of leadership patterns across schools and aspects of teachers' pedagogical content knowledge across schools.

Our Findings

1. *Data systems across and between schools and clusters vary*
   The question of the general effectiveness of the nine Schooling Improvement initiatives could not be

answered at a generalised level. The reasons, detailed in an accompanying paper 'A systems level approach to learning from aggregated achievement data: Implications for policy' (Lai, McNaughton & Amituanai-Toloa, 2009), are to do with the state of databases, the management of those databases and the uses of the databases. Three clusters had sufficiently robust data which were longitudinal and could meet criteria of accuracy and reliability. Interventions generally will need much better managed databases than currently exist and recommendations about guiding principles and systems which would enable these to develop are contained in the paper.

2. *Schooling improvement can work for Pasifika, but progress is slow*
   The data from three clusters with varying types of databases for Years 4 - 8 in reading comprehension (one of whom was also a Focus Cluster) show that clusters vary in effectiveness. One cluster made expected gains over a year. Two of the clusters made accelerated gains (over and above expected gains) during individual school years with average effect sizes (d) of between 0.2 and 0.5. Over two years, one cluster had an effect size (d) of 0.5. Clusters had varying drops associated with summer (the 'Summer Learning Effect') which meant that in two out of three clusters, continued gains were slowly, cumulatively, enabling achievement levels to reach average bands. A rigorous educational (and equitable) criterion used to judge effectiveness shows that more gains are needed to reach a full match with a nationally expected distribution in achievement (McNaughton & Lai, 2009). One cluster is close to this match.

3. *Similar gains occur for Pasifika groups, but there are gender differences*
   In the overview of clusters there was no evidence that different Pasifika groups were substantially different in their responses to the programmes, either in terms of rates of gain or levels. However, while Pasifika students make similar rates of gain to others, their achievement levels tend to be lower. There was also evidence that there were substantial gender differences in the levels achieved, although rates of gains can be similar (creating a progression which is like 'parallel tracks'). What this means is that the focus on Pasifika groups needs to have, even within this differentiation, a possible differentiation in instructional focus for boys.

   A tentative conclusion from the first step in the results, then, is that the most effective Schooling Improvement projects can 'work' to make a real educational difference. However, the progress is slow and cumulative, and clearly from the descriptions of the projects requires substantial resourcing and long-term focus.

4. *There are school by school differences*
   More detailed analyses of the data from one 'Focus Cluster' confirmed these general results. There were gender differences in the levels achieved although not in the rate of gains and while different Pasifika groups achieved at similar rates, Samoan students tended to score at higher levels (but not always). The more detailed analyses showed differences between classrooms (although all but a few classroom made accelerated gains during years), and at the school level (over two years the effect sizes (d) across schools varied from 0.30 to 0.77). From these analyses we found that there were high gain and low gain schools within the cluster and it will be important for additional research to further tease out the features of schools associated with these differences.

5. *Different patterns emerge with gain and level analyses*
   Two sorts of statistical models were developed to further explore patterns. These were 'gap difference' models which explored patterns of achievement over time in terms of rates of gain, and 'level difference' models to examine patterns in overall mean levels of achievement. There was no

evidence from the 'gap' models of differences in achievement due to language status (rates of gain were not different for students with different home languages or who identified their first language differently), country of birth, or gender. However, a student's starting level predicted the rate at which gains were made – higher gains were made by students who were in the lower stanines. But over time these differences disappeared.

What this means specifically for the Pasifika Schooling Improvement is that judgements about effectiveness need to be made over more than a year and it is very important to be able to examine how higher achieving students fare in programmes.

For the 'level difference' models; gender, time lived in New Zealand, home language, and school were associated with significantly different levels of achievement. Overall, the mean scores for the students that spoke mainly Pasifika languages and those that spoke two or more languages (Pasifika language as well as English) at home were significantly lower than that for the mainly English-speaking students. The mean scores for females were significantly higher than that for males. With respect to the length of time lived in New Zealand, the mean scores for those that had lived in New Zealand for more than five years and those that were born in New Zealand were significantly higher than those that had lived in New Zealand between one and five years. The mean levels of achievement differed significantly between schools, and part of this difference could be due to the different year levels (i.e., cohorts) that the schools catered for.

6. *Both rate and level criteria need to be used to judge effectiveness*
   These two sets of models underline an implication for further evaluations of interventions. There is a need to have two related criteria for judging educational significance of interventions, especially in terms of equitable outcomes (McNaughton & Lai, 2009). The tests of effectiveness should be, firstly, whether clusters are achieving accelerated rates of achievement, and secondly whether they are shifting distributions of achievement to match national expectations. The former sets the test at being about making more than just a normal rate of progress because that means perhaps higher levels but parallel tracks of achievement. The latter sets the test as achievement for students in the schools being no different from the distribution of the achievement for students nationally (i.e., the same proportions of low, middle and high achieving students).

7. *Case studies of schools add detailed information*
   The case studies added more qualitative evidence to these outcomes. In terms of quantitative data there were systematic observations of classroom instruction which included measures of the quality of instruction as well as cultural responsiveness judged across two levels (positive affect and incorporation of students' cultural and linguistic resources). The qualitative data include interviews with Principals, Literacy Leaders, parents and students. The results modify some of the conclusions developed at a cluster level to a school level. What they contribute also is both the indicators of success and by corollary what doesn't work for Pasifika learners.

8. *Greater effectiveness is associated with a range of home-school connections*
   The case studies suggest greater effectiveness is associated with practices between schools and their communities that involve sharing knowledge and resources with a degree of reciprocity, with the specific outcome of increasing parent involvement, which may then impact on students' motivation and academic skills. Putting together the evidence across the various sources, three conclusions were suggested: (a) parents' understanding of information about their own individual child's learning and

achievement, both strengths and weaknesses as well as progress across time, can increase parental impact on motivation and skills; but (b) parents need guidance and advice on both motivational and academic involvement; and (c) parents are keen to receive advice and they have ideas about practices both at home and at school that could contribute. The latter may or may not be effective but they are important ideas that can be the basis of reciprocity – an example is the role and forms of homework. The findings of substantial (but variable) Summer Learning Effects underscore the need to more deliberately develop and share practices between school and family settings.

9. *Coherence within a school at all levels is important to effectiveness*
   Our hypothesis about developing inquiry practices that are evidence-based and outcomes-focused was well illustrated in the case studies. Each of the Case Study Schools was engaged in clusters of Schooling Improvement which focus on inquiry and it would be expected that these practices would be in place. But the schools varied in how deeply ingrained, extensive and coherent their practices were. The patterns suggest that greater coherence will be associated with greater effectiveness. Coherence matters: (a) between levels in the schools, across members of the school professional community, and between different instructional parts including teachers; (b) for new members of the system so that detailed induction as a member to share values and skills is important; and (c) so that all programmes – existing and new – are integrated into the inquiry practices and are 'tested' by the inquiry process. The coherence between teachers appears to be especially significant so that there is consistency in pedagogical approaches as well as in focus and goals.

10. *Generally effective teaching practices are present which have been adapted to be responsive to Pasifika students*
    There was some ambiguity detected at a school level in how terms such as 'cultural responsiveness' and 'Pasifika pedagogy' are used, and there is a need to clarify more specifically what is meant by these terms. However, in general, the evidence across schools was that the schools, to varying degrees, taught using generically effective forms of instruction, but adapted them to be applicable to and responsive to different Pasifika learners. The specific measures from classroom instruction, when examined at a teacher level, were not related systematically to either rate of gain in classroom or achievement levels. However, when combined and averaged across schools, there was evidence that the teachers' measures of instructional quality and cultural responsiveness were associated with overall school achievement. The highest scoring schools had higher levels and moderate to high rates of gain. This suggests that coherence in instruction and cultural responsiveness in schools may be more important than individual teachers' expertise.

It is possible to identify elements of what the model is that the schools are moving towards. Clearly, schools are effective to the degree that they use known attributes, such as explicit instruction for both basic knowledge and strategies, high levels of elaborative talk and inquiry are promoted, there is a focus on the language needs including those for vocabulary and there are well-developed forms of feedback. Running across these is the need to be clear and explain goals and needs for learning. On the other hand, specific dimensions of cultural responsiveness are clearly part of more effective teaching. The twin dimensions of positive relations and incorporating students' resources were identified to varying degrees in classrooms. Importantly, these themes were echoed by the students. Pasifika pedagogies that are being developed in these schools, in the sense of being adapted to Pasifika learners, draw on background knowledge including topics and event knowledge, language patterns and activities, and the students and teachers are aware of this. But in addition, there is the dimension of a strong emotional relationship which, together with the instructional attributes, has

elements of being both rigorous and challenging as well as being respectful and empathetic. The former includes high expectations and the latter a Pasifika sense for the students of education being service-oriented and, from the teacher, positive affect expressed with devices such as Pasifika-oriented humour.

11. *Students are clear on what instruction works for them*
    The student voices were very similar to those from the Te Kotahitanga project (Bishop, Berryman, Tiakiwai, & Richardson, 2003) but the adaptations suggested above include a need for teachers to provide a strongly supportive base enabling the students to take risks and be critical and engaged. For example, students want teachers to break down the questions for simplicity including clearer explanations and challenges in their work. The evidence supports previous research showing Pasifika learners to be generally highly motivated to succeed and to learn across the schools. Students are more consistently positive and motivated at primary schools. This is true generally, and like the more general need Schooling Improvement will need to consider how to increase engagement and emotional connection at secondary levels (Paris & McNaughton, in press).

12. *Parents want to know how they could support their children*
    The overall parent interviews strongly echoed the case study conclusion: (a) parents need guidance and advice on both motivational and academic involvement; and (b) parents are keen to receive advice and they have ideas about practices both at home and at school that could contribute

13. *Being bilingual is not an impediment to academic achievement of Pasifika learners*
    Looking at language status from the point of view of achievement, there was no evidence from the Case Studies that having two or more languages is an impediment to high success either at primary or at secondary. The patterns of development may look different for those students with a Pasifika language or both a Pasifika and English language background in the earlier years, compared with English only students. But from the middle and upper primary and into the secondary years the sense is that bilingualism may (under important conditions not tested here, such as level of bilingualism) lead to similar outcomes (as having a strong English-only status), and in a wider sense confer other advantages.

14. *The need for induction for newly arrived Pasifika students*
    There is perhaps an obvious suggestion in the data that more familiarity with the New Zealand education system is advantageous and we take this to mean that for newly arrived students there is a need to have very explicit induction and support to develop the knowledge and skills required for local schooling.

Three other documents were generated from this report: the first, a Policy Paper (Lai, McNaughton & Amituanai-Toloa, 2009) to assist the Ministry with further Schooling Improvement policy development for Pasifika; the second, a Summary Report which succinctly summarises the main findings of this study but without technicalities (Amituanai-Toloa, McNaughton, Lai, & Airini, 2009b); and the third, a Communication Template which provides guidance to schools about principles and practices to help support communication between parents and the school (Amituanai-Toloa, McNaughton, Lai, & Airini, 2009a).

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1. Introduction

The academic achievement of children in New Zealand is relatively high compared to other countries (Sturrock & May, 2002). This is good news for New Zealand and for the majority of students. However, achievement is not high for all, particularly for those students who speak a language other than English and have a culture which is not of the majority. These students, mostly of Māori (indigenous) and Pasifika communities (immigrants from the Pacific Islands) descent, are not achieving at the same level as other students. Many hail from communities in the Southern part of Auckland, New Zealand, classified as 'low socio-economic' communities and who mostly attend low decile[1] schools serving these economically poor communities (McNaughton, MacDonald, Amituanai-Toloa, Lai, & Farry, 2006). Note that by 'poor communities' we mean in real economic terms, and by no means do we intend to denigrate other areas in which Māori and Pasifika people might be abundantly rich.

1.1 Pasifika Peoples of Aotearoa New Zealand

Pasifika people in Aotearoa New Zealand make up 6.9% of the total New Zealand population, and those identifying with the Pasifika peoples ethnic group had the second largest increase from the 2001 Census (231,801), up 15% to total 265,974 in 2006. Over 9 in 10 Pasifika peoples (93%) living in New Zealand in 2006 lived in the North Island. Two-thirds of Pasifika peoples live in the Auckland region. The Pasifika group had the highest proportion of children (people aged 0 to 14 years) of all the major ethnic groups, at 38% (Statistics New Zealand, 2007).

In the case of Pasifika students, the educational system faces an increasingly significant challenge with the low academic achievement of its Pasifika group. At all levels of education Pasifika achievement has been prioritised, along with Māori, by government policy and strategy, and operationalised on the basis of meeting identified needs.

1.2 Pasifika Students and Achievement in New Zealand Schools

Closing the achievement gap between Pasifika and other students is one of the current Minister of Education's goals and is a key focus for the Ministry of Education. In 2001 the then Government's plan for education resulted in the Pasifika Education Plan (PEP) which underpinned the Government's goals for Pasifika education. Since its implementation, there have been several projects which have examined the progress of Pasifika students, and there have been positive results in some areas. For example, the National Education Monitoring Project (NEMP) findings in the primary school sector show that overall, Year 4 and Year 8 Pasifika students are generally performing below national norms but in recent years the difference in results between Pasifika results and all students has reduced in some areas (Crooks & Flockton, 2005b). In 2004, results for music, for example, showed there was very little difference between the performance of Pasifika students and other students, which is an improvement since 2001 (Crooks & Flockton, 2005a). Year 4 reading results, especially in accuracy, also showed an improvement for Pasifika students between 2001

[1] Decile indicates the proportion of students within the school living in low socioeconomic communities, such that decile 1 schools have the highest proportion of students from low socioeconomic communities, and decile 10 schools have the lowest proportion of these students (Ministry of Education, 2008).

and 2004, although Pasifika are still, on average, performing below the national mean in reading (Crooks & Flockton, 2005b).

Recent studies in the same sector (McNaughton et al., 2006; McNaughton, Lai, Amituanai-Toloa & Farry, 2007) show that achievement for Pasifika students can be raised. In these studies the achievement of Pasifika students from Years 4 - 8 in reading comprehension at baseline was shown to be about two years below average, with a stanine rating of around 3. After a systematic intervention, student achievement improved by almost one stanine[2] in addition to normal progress. There is evidence to indicate that these are beginning to be sustained with some students currently achieving higher than national norms (Lai, McNaughton, Amituanai-Toloa, Turner, & Hsiao, 2009).

In the secondary school sector, in 2008, 48% of Year 11 Pasifika students achieved NCEA Level 1, compared with 70% of all students. 54% of Year 12 Pasifika students gained NCEA Level 2 in 2008 (compared with 75% of all) and 41% of Year 13 students gained NCEA Level 3 (compared with 705 of all). In 2007, 6% of Pasifika students left school with little or no formal attainment. This was a decrease from 2006, when 12% of Pasifika students left school with little or no formal attainment. The percentage of Pasifika students leaving school with little or no formal qualification has been declining since 2002. The University Entrance results showed that in 2007 the proportion of Pasifika students leaving school with this qualification or higher was 20%, compared with 39% of all school leavers. This was substantially higher than 2004 where only 15 percent of Pasifika students left school with at least University Entrance (Ministry of Education, 2009; New Zealand Qualifications Authority, 2009).

Pasifika students make up a large and growing proportion of the school population in New Zealand. On 1 July 2008, Pasifika students made up 9.5% of students in New Zealand schools. This proportion was highest in the Auckland region where 20% of students were Pasifika (Ministry of Education, 2004a)[3]. 73% of all Pasifika students in New Zealand attend schools in Auckland or Northland. In the tertiary sector, Pasifika students in 2008 made up 7% of all domestic students compared with 6% in 2003, representing 5,148 more students (Ministry of Education, 2009).

Despite the gains noted above, and although some Pasifika students achieve at a very high level, they achieve, on average, less well than their Pakeha and Asian peers (Satherly, 2006). Compared to the general population of students, Pasifika students are over-represented in the statistics for those leaving school either without assessment results or with lower level assessment results[4] and are over-represented in suspension and stand-down figures (Education Review Office, 2004; Ministry of Education, 2004b; New Zealand Qualifications Authority, 2009).

The challenge of low achievement has been identified for a long time (e.g., Ramsay, Sneddon, Grenfell, & Ford, 1981). Like other countries, New Zealand has been concerned with the disparities in literacy achievement between its cultural groups. New Zealand's and other countries' response to this enduring

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[2] In a stanine scale, raw scores in a normal distribution are converted to a nine-point scale with roughly equal steps, with an average of 5, a minimum score of 1 and a maximum score of 9.

[3] The next highest proportion of Pasifika students was in the Wellington region with 10.4 percent. No other region had a proportion of Pasifika students over four percent.

[4] In 2004 Pasifika students were the lowest ranked group of Year 11 candidates who met NCEA Level 1 literacy requirements by ethnic group (Satherly, 2006), with 62% meeting NCEA Level 1 literacy requirements. However, the proportion leaving with only Year 11 (Form 5) assessment results or no assessment results has reduced significantly since 1998.

'education debt' (Ladson-Billings, 2006) has included programmes of Schooling Improvement[5] and reform, at local, district and even national levels.

Schooling Improvement intervention programmes for culturally and linguistically diverse students from poorer communities need to help solve a set of issues relating to more effective literacy and numeracy instruction at all levels. The need to meet these issues is pressing in New Zealand where, on average, students in the middle years of school have high levels of reading comprehension judged by the international comparisons but where there are large disparities within the distribution of achievement (Alton-Lee, 2004). Like the general picture, these disparities are between children from both Māori (indigenous) and Pasifika communities (immigrants from the Pacific Islands) in urban schools with the lowest employment and income levels, and other children. Since at least the 1950s numerous reports have identified these disparities (e.g., Openshaw, Lee & Lee, 1993) with one in 1981 calling them a crisis urgently in need of a solution (Ramsay et al., 1981).

The evidence indicates that there has been limited impact from Year 4 of schooling, especially in the case of reading comprehension. Indeed it appears that the gaps in reading comprehension have increased nationally (Crooks & Flockton, 2005b). Much of the knowledge and skills required for early fluency and accuracy in reading, the areas where gains have occurred, come from acquiring discrete bodies of knowledge. Paris calls these 'constrained' skills which he claimed are relatively easily learned (Paris, 2005). The more language-based and content-dependent nature of comprehension requires 'unconstrained' skills which are more difficult both to teach and learn. In developmental terms, becoming a good decoder is a necessary but not sufficient condition for good comprehension. This means that effective instruction in Years 1 - 3 does not act as an inoculation for later development after Year 4 (McNaughton, 2002). The educational challenge is to continue to be effective for all population groups achieving at successive levels.

The challenge to provide more effective schooling for poorer schools serving culturally and linguistically diverse populations has been present in a number of countries (Snow, Burns, & Griffen, 1998). Whilst there has been recent evidence of improvements for these students, the evidence for this is moderate. In the United States, Borman (2005) showed that national reforms of schools to boost the achievement of children in low performing schools serving the poorest communities have produced small gains in the short term with effect sizes in the order of less than 0.20. For those few schools that sustain reforms over a longer period of around seven years, the effects increase (estimated to be effect sizes in the order of about 0.50). When considered nationally, Borman concludes that while some achievement gains have occurred, they have typically been low and need to be accumulated over long periods of time. At a more specific level, there are individual studies from the United States that have shown that clusters of schools serving 'minority' children have been able to make differences to the achievement of children in reading comprehension. In one set of studies, Taylor, Pearson, Peterson, & Rodriguez (2005) intervened in high poverty schools with carefully designed professional development, and reported small cumulative gains across two years.

From international studies, we know there is little research on the impact of Schooling Improvement interventions on 'sub groups' (Borman, 2005). We do know that different types of programmes can be

[5] A national initiative funded by the Ministry of Education that aims to improve student outcomes by assisting schools to further develop effective processes and practices with other schools. Key element of this initiative are schools and teachers working collaboratively to extend their professional knowledge and practice, schools using evidence-based decision-making to inform teaching practices and support a culture that encourages the effective use of data, and a developing knowledge base of models of effectiveness and examples of practices and processes that can be used to enhance school performance.

differentially effective with the age or level of the student (Correnti, Rowan, & Camburn, 2003). This might suggest that in a highly prescribed intervention some students would benefit more than others, or that some students would learn less than others. For example, more advanced students might benefit from a programme that had more advanced instructional elements in which they were able to focus more on developing 'unconstrained' skills, but they may be limited by a programme that focused more on 'constrained' skills (Paris, 2005). Differential effects are not inevitable. In one study (McNaughton et al., 2007), the intervention was built on local profiles and was, through a process of development with the schools, specific to identified learning needs. The process, which led to a controlled 'fine tuning' of existing instruction, was predicted to be both generic and adaptable enough to serve the needs of the subgroups, and the evidence suggested that this was the case.

As noted above, Schooling Improvement programmes generally show evidence of varying degrees of effectiveness. From analyses such as those described previously (Borman, 2005), we can derive generalisable principles of effectiveness, for example, about the role of programme specificity or the role of professional learning communities. More needs to be known about specific components, and where available the evidence linking success to the level and quality of implementation, the relationships between the developer and the local school and school district, and the coordination and fit of the model to local circumstances (McNaughton et al., 2007).

1.3 Effective School-Based Intervention

1.3.1 A focus on connections and partnership

The picture for Pasifika students in New Zealand has been formed by a small, albeit growing, number of studies focused on the disparities between Pasifika students and those from other ethnic groups (e.g., McNaughton, et al., 2006; McNaughton et al., 2007). But there are few studies that demonstrate statistically significant improvements for Pasifika students. In Annan's (2007) review of Schooling Improvement initiatives nationally, he found only one Schooling Improvement project nationally that had strong evidence of verified improvements in achievement. Research in that initiative showed improvements for Pasifika students which have reduced the gaps between their achievement and other ethnic groups nationally (e.g., Lai, McNaughton, Amituanai-Toloa et al., 2009; McNaughton et al., 2007; Phillips, McNaughton & MacDonald, 2001).

Whilst these results are positive, there have been very few targeted research studies examining disparities between different Pasifika groups within and between schools. Although some Schooling Improvement initiatives analyse their data according to the different Pasifika groups, these are rarely focused on or reported in research publications.

Previous reviews of general research are provided by the New Zealand Best Evidence Synthesis (BES) Quality Teaching for Diverse Students (Alton-Lee, 2003) which indicates the 10 dimensions of quality teaching for diverse students including Pasifika students. The review here is focused primarily on the evidence from interventions for Pasifika students. It largely draws on and is consistent with the principles in the BES. Among the BES dimensions that were derived from research across the curriculum and for students across the range of schooling years in New Zealand (from age five to eighteen), is that quality teaching is dependent on effective links being created between school and other cultural contexts.

In order to improve achievement, Annan (1999) suggests that schools should have an 'active' working relationship with their communities including families, community-based agencies and organisations. The

initiatives that have raised student achievement have involved partnerships between researchers, policy-makers, community and schools (Annan, 2007). However, not all working partnerships are useful for producing the kinds of changes that can improve student achievement. In an early evaluation of a Schooling Improvement initiative, Timperley, Robinson, & Bullard (1999) found that partnerships between local communities, schools and government were highly problematic for reasons such as blaming another partner for the educational "failures", rather than attempting to learn together how best to raise achievement. This led the researchers to argue that educational partnerships should be founded on the following: empathy for the theories of those involved; the ability to offer resources that have the potential to challenge and change the understanding and thinking of those who control the relevant practices and policies; engagement in mutual critique so theories are made explicit for critique; and the fostering of responsibility and commitment by making all parties aware of the possible consequences of choices whilst allowing them the freedom to accept or reject those choices.

It is argued that the improvements could be enhanced by the involvement of communities. For example, an issue facing schools in Schooling Improvement initiatives is the presence of summer effects where there is differential growth, or even drops, in learning over the months when schools are closed (Cooper, Charlton, Valentine, & Muhlenbruck, 2000; Entwisle, Alexander, & Olson, 1997). Students from poorer communities and minority students make less growth and/or are more likely than other students to experience a drop in achievement over this period contributing to a widening gap in achievement.

In Heyns' (1978) study, Year 6 low income African American students lost almost a quarter of a grade on the word knowledge test of the Metropolitan Achievement test, and lowest income white students made almost no gains. She showed that between half and two thirds of the annual learning gap between white children from high income homes and the poorest black children accrued during the summer months. The gains over the school year were much closer for all groups. One possible explanation for this effect is related to family, social and cultural practices that provide differential exposure to school-related literacy activities over the summer.

When researchers in New Zealand examined the summer effect as part of statistically modelling growth over time, achievement plateaued rather than dropped over summer (Lai, McNaughton, Amituanai-Toloa et al., 2009). Anecdotal reports from these schools implicated the importance of working with the community such as local community libraries and parents and developing students' love of recreational reading as factors that were influential over summer. As such, the intervention gains in that intervention may have been sustained in part because of the links to the community and parents' especially positive relationships with them.

1.3.2 Inquiry focus

Recent research has expanded on how to partner in ways that maintain the relationship between partners while having open, honest discussion and resolution of the issues of raising student achievement. One way is to adopt research methodologies that deliberately incorporate relationships as part of their central tenets. For example, Problem-Based Methodology, which was designed to improve education practices and has as its central core a research relationship based on learning conversations, has been used successfully as a framework by different partners to raise achievement (Robinson & Lai, 2006). In this framework, the authors suggest that all partners' theories, for example teachers' theories, need to be engaged alongside researchers' theories, but that any theory competition needs be resolved without privileging either theory. The process increases the validity of the emerging theories by allowing for disconfirming evidence from all parties to be treated and tested equally, rather than privileging researchers or teachers' theories. This is also more likely to lead to a greater power-sharing between researchers and teachers, resulting in greater acceptance of any

changes to current practice. Robinson and Lai (2006) further provide the framework by which different theories can be examined using four standards of theory evaluation. The standards are accuracy (empirical claims about practice are well founded in evidence), effectiveness (theories meet the goals and values of those who hold them), coherence (competing theories from outside perspectives are considered) and improvability (theories and solutions can be adapted to meet changing needs or incorporate new goals, values and contextual constraints). In their example of using the framework, researchers and school leaders (using the standard of accuracy) were able to adjudicate between two opposing theories of the causes of low student achievement by carefully examining profiles of students' needs to test the opposing theories (Robinson & Lai, 2006). The profiles indicated that students were high decoders but weak in other aspects of reading comprehension, thereby ruling out one of the opposing theories, and ruling in the other, that students could decode but not comprehend texts. The teachers therefore focused less on decoding and more on other aspects of comprehension, which was followed by improvements in reading achievement.

1.3.3 A focus on instruction and culturally responsive pedagogy

Further dimensions in the BES emphasise responsive instruction, pedagogical practices that are enabling and that promote learning orientations, and an unrelenting focus on achievement. Recent Schooling Improvement initiatives have had a focus on improving classroom practice, in line with the evidence in the BES suggesting that teachers contribute to a significant proportion of the observed difference in achievement levels among students (Alton-Lee, 2004). Recent initiatives which have raised and sustained achievement have focused on improving classroom practices through targeted interventions with teachers in professional learning communities (e.g., McNaughton et al., 2006; Lai, Timperley, & McNaughton, 2008).

The effectiveness of instruction is likely to be determined by how culturally responsive the general pedagogy in the classroom is. The evidence from the Achivement in Multicultural High Schools (AIMHI) project (Hill & Hawk, 2000) and from the Te Kotahitanga project with Māori students shows relationships to be a crucial component in learning (Bishop et al., 2003). Whilst previous research foci have been on academic achievement per se, Bishop's study played a vital and important role in shifting the lens. The Te Kotahitanga intervention is a complex multi-component model for secondary schools. At its core is a concern for Māori students' voices and a process that enables the student's awareness and ideas about teaching and learning to be incorporated into the school's culture. The holistic approach also adopts an instructional framework which balances cultural practices with an inquiry or dialogic pedagogy. This emphasis on a culturally responsive and pedagogically advanced teaching may provide an important framework to consider effective instruction for Pasifika students. The effect sizes reported for asTTle numeracy in the Te Kotahitanga schools have been large, in the order of 0.79 (Bishop, Berryman, Cavanagh, & Teddy, 2007).

1.3.4 Students' beliefs and values

Student voices added important evidence in the Hill and Hawk (2000) study of the AIMHI project to raise student achievement for Māori and Pasifika students in eight low decile secondary schools. The students indicated in this study several areas where teachers needed to improve their practice. From this, the project team planned professional development for teachers in such areas as: differentiated learning, including both differentiated ways of learning and differentiated teaching for abilities; teaching and language; direct instruction in a purposefully structured way; skills in questioning and giving explanations; cooperative learning techniques to encourage deep thinking; formative assessment and in particular the skills of giving verbal and written feedback; professional development on relationship and cultural awareness; and aspects of lesson structure and organisation.

The most important conclusion that came out of this study was that students were very aware of teacher effectiveness and skilled in identifying patterns of teaching and learning. In secondary schools, the students are an important contributor to effective teaching and learning through their beliefs and ideas. The AIMHI research, like Te Kotahitanga, shows that students can be very knowledgeable and articulate about their needs and how well these are being met. Pasifika learners express high motivation to learn and succeed. They identify a need to be taught by teachers who know and respect them. An additional finding was that effective teachers were also accurate in their perceptions of their performance.

Echoing the first focus noted above, the AIMHI research underlines the need for closer relationships between schools and their communities. Thus, Annan's (1999) suggestion of alignment of community expectations and practices to 'best practice' is therefore just that and a 'fit' of any model to local circumstances including community circumstances is emerging as an important criterion for effectiveness.

1.3.5 Bilingual and biliteracy – Pasifika languages and knowledge within Schooling Improvement

Although it is not often considered under the rubric of Schooling Improvement, there is also the issue of bilingual education. It is important to note that bilingual students are not just those in bilingual contexts who speak a language other than English. Rather, it also includes those students in mainstream contexts who also speak a language other than English. Students in formal bilingual contexts are taught using two languages for instruction. For example, research by Tuioti and Kolhase (2001) has described Samoan bilingual classes in which English/Samoan delivery ranges between 10/90, 60/40 and 50/50 percent of the time each day. However, despite provisions for setting up bilingual classes in schools, schools themselves have different rationales for the variety of formal setup, drawing mostly from parent demand (Amituanai-Toloa, 2007b).

The global trend in examining bilingual education and the rigour in which it is conducted comes at a pivotal time given projections of ethnic population growth. In the United States, for example, the National Assessment of Educational Progress results showed that there have been increasing numbers of English language learners in classrooms, especially Hispanic students (Snyder, Dillow, & Hoffman, 2009). There is a similar trend in New Zealand for the Pasifika group. The rapid growth rate of the Pasifika young and adolescent population (Statistics New Zealand, 2007) is becoming more and more noticeable in school settings. Consistent with findings in the USA, Pasifika achievement in New Zealand is below that of their peers in academic achievement in the middle school years and beyond, with scores well below those of national norms (Foorman & Schatschneider, 2003; McNaughton et al., 2006).

The advocacy from global and local research for bilingual education and its benefits is not new (Tabors & Snow, 2001; Perez, 2004; May & Hill, 2004). But despite indications of benefits, there are also those who advocate monolingualism in mainstream education. This position is sustained by the lack of extensive evidence on the functions and effects of bilingual education in relation to English language achievement for the New Zealand context.

What is known is that for students who have knowledge in a language other than English, good grounding in that first language (L1) can lead to a transfer of skills from that language to the second (L2) (Tabors & Snow, 2001). There is, however, a lack of research in New Zealand into L1 and L2 language development and a shortage of evidence to indicate what can be transferred and how that transfer might occur. In addition, we know little about the differences between younger and older bilingual students and the different degrees of variability in oral proficiency in both languages which, Garcia (2003) noted in his review, impact on their reading proficiency.

In this report we examine, where possible, the relationships between language status and achievement in the initiatives.

1.3.6 The overall 'fit' of Schooling Improvement for Pasifika

The fit of an intervention model to local circumstances, and how that fit is coordinated for the Pasifika group within schools and outside schools, needs to be known. There is an implication from the coordination and fit of a model that when it relates to local contexts, schools that are inclusive of their communities and their students are more effective. The point, however, for this research finding and others reviewed thus far, is that specific components of these generalisable principles of effectiveness need to be known for their effectiveness with Pasifika students. The most important issue emerging from this review is whether the generalisable effective principles, such as the 'fit' of an intervention, are defined and coordinated from the lens of a Pasifika viewpoint of local circumstance or from the outsider lens of a developer's perspective of local circumstance. When these have not been fully and contextually defined, taking into consideration the culture of communities in which schools are located, it is likely that the effectiveness of an intervention will be limited. This is the implication from the BES principles.

The issue raised in several international reviews of Schooling Improvement has been the question of local adaptation. For example, Datnow & Springfield (2000) find that implementation 'falters', as they put it, when the adoption of the reform has not been preceded by careful consideration of each school's specific needs and adaptations such as the amount of curriculum time devoted to the design or selective use of instruction that take place. Interestingly, although the phenomenon is well known there is not much research on how designs change over time through this process and what happens when designs do not fit.

In addition, careful consideration of particular ethnic groups which make up a school (especially for schools in this report) might not have occurred in the adaptation process and in the fitting of a programme to local conditions as its corollary. In the case of Pasifika students, their needs might not have been initially addressed and considered fully before any implementation of Schooling Improvement initiatives had begun. If they were considered, they generally come under the auspices of achievement for students of minority groups of which the Pasifika group is one, or general achievement of all students including Pasifika students. But the above evidence suggests that explicit consideration of ethnic groups can have achievement benefits. More specifically, when Pasifika needs are taken into account, achievement can be further accelerated. A recent project, which as part of its methodology adapted the programme to fit the local needs of its students, showed significant improvements which were similar across the ethnic groups, gender and year levels (Lai et al., 2008), although it has not yet succeeded in fully closing the gap between Pasifika students and others.

The need for the fidelity or integrity of any programme implementation can be seen as a fundamental challenge to this argument about contextual adaptation. But from the point of view of explaining 'failures', Cohen & Ball (2007) identify the pre-existing pedagogical content knowledge of teachers and the degree to which the reform programme is articulated as conditions which determine how the design as conceived is actually implemented. This concern, as well as stage models of the development of professional learning communities, predict the need to consider local fit in terms of 'readiness' for the process, or the capabilities of schools to engage in reform (Raphael, Goldman, Au, & Hirata, 2006).

Additionally, while we need to know how intervention effectiveness is determined by local conditions, adaptation can also be seen as an inherent property of schools as communities and thus a critical component in the development of research–practice collaborations to reform schools (McDonald, Keesler, Kaufman, & Schneider, 2006). This view suggests that adaptation is needed so that the local school is gradually

introduced and capacity is built to fully engage with the required and already specified implementation. But additionally, as was argued above, implementations need to be constructed on the ground as contextually appropriate. This view requires a reconsideration of the concept of programme fidelity on the one hand, and on the other hand it may also enable us to understand more about the nature of pedagogy in different socio-cultural contexts.

Recent Schooling Improvement projects in New Zealand provide evidence for the significance of local contexts in this sense (Lai, McNaughton & Amituanai-Toloa, 2009; Parr, Timperley, Reddish, Jesson, & Adams, 2007). This evidence comes partly from how local patterns of achievement and instruction create specific needs in the content of Schooling Improvement. The evidence suggests that generic programmes of Schooling Improvement that have highly specify content may not necessarily provide the best fit with local conditions at the level of learning and instructional needs and particularly with Pasifika students for several reasons.

A further reason for the need to contextualise is that the word 'Pasifika' is a heterogeneous term and it does not explicitly identify the different ethnic groups within this term. As discussed elsewhere (for example, Airini, McNaughton, Langley, & Sauni, 2007), 'Pasifika' means people of a Pacific nation heritage living in New Zealand. This is a heterogeneous group made up of peoples who have recently emigrated from many different Pacific nations to New Zealand as well as those who have been New Zealand residents over several generations. In this way 'Pasifika' is a diverse term – by way of nation groups that students affiliate with, as well as internally – so that within any one Pacific nation group there may be differences in cultural practices and beliefs.

A further sense of contextualising research into Pasifika achievement is to recognise the range of achievement patterns amongst those groups making up 'Pasifika' (Otunuku & Brown, 2007). The range can be by heritage group (e.g., distinguishing between Tongan and Samoan achievement), gender (e.g., differences in male and female achievement), or even region and city (e.g., exploring Pasifika achievement in Manukau City and Waitakere City). Compounding factors include students' abilities (Hattie, 2003), socio-economic status, early childhood education (Wylie & Hodgen, 2007), bilingual expertise (Amituanai-Toloa, 2007b), language in the home (Satherly, 2006), and factors influencing competency to achieve in the New Zealand curriculum (e.g., exposure to books and libraries, secondary and tertiary qualifications of the mother; Wylie & Hipkins, 2006).

A challenge facing Schooling Improvement, which is designed to improve Pasifika achievement, is the scaling up of those research initiatives found to be effective. Scaling up research and development programmes for Pasifika achievement needs to identify unique socio-cultural dimensions of Pasifika peoples both as a collective and individually. Scaling up involves researching larger numbers across a broader area, and in some cases this involves institutionalising effective programmes. Interventions will need to consider the varieties of conditions and circumstances of identity in different regions. Research and development programmes will need to interrogate how accelerated gains for Pasifika students can be spread within schools and across schools.

Suggested principles for scaling up include:

- effective programmes intended for scaling up need ongoing evaluation to determine how they are generalisable and the properties of expansion, given the arguments for local adaptation noted above;
- Pasifika research methodology approaches should be applied to gathering information about programmes proposed for scaling up;

- scaling up planning should include a sustainability framework utilising and expanding Pasifika research, development and teaching capability and capacity;
- scaling up should come with adequate resourcing and a robust policy framework (Airini et al., 2007); and
- scaling up should have a strategic relevance. Scaling up should link directly with the government's *Pasifika Education Plan* (Ministry of Education, 2008b).

Finally, needs to contextualise may derive from methodological concerns. The research literature signals a growing awareness that to be effective, research into Pasifika achievement should utilise Pasifika research methodologies and methods. There are Pasifika approaches to research into Pasifika achievement. Researchers with expertise in Pasifika research and methodologies, that encourage Pasifika approaches to knowledge creation, offer insights that may enhance the validity and reliability of research into Pasifika achievement. Consequently, Pasifika research methodologies have been developed (Anae, Coxon, Mara, Wendt-Samu, & Finau, 2001; Health Research Council, 2004) and applied increasingly to research ethics and research projects. These approaches identify ethical principles and actions for effective research with Pasifika peoples (Health Research Council, 2004), including:

- meaningful engagement
- cultural competency
- capacity building
- reciprocity
- utility.

1.4 The Report: Schooling Improvement Initiatives for Pasifika Students

The current project focuses on the effectiveness of Schooling Improvement initiatives for Pasifika. It stemmed from a concern which originated in international studies starting more than a decade ago with evidence of Pasifika student underachievement in New Zealand (Sturrock & May, 2002). The current study addresses reform through researching specific initiatives and through tapping into the most important resource to have on side: the community. There is an assumption that implementing Schooling Improvement initiatives to raise achievement for students generally in schools would automatically do the same for Pasifika students. Whilst there may be a degree of truth in this assumption, the evidence is that the majority of Pasifika students nationally are yet to achieve national norms despite increases in some areas of reading (Crooks & Flockton, 2005b).

In addition, analyses of Pasifika Schooling Improvement have the potential to be a source of innovation contributing knowledge about how effective Schooling Improvement initiatives have been, or could be. As a policy developer and coordinator and therefore overall leader of initiatives in schools, Schooling Improvement is expected to lead schools within its jurisdiction under five main leadership dimensions known to be effective in raising achievement. According to Robinson (2007), student achievement is very much dependent on leadership, including all aspects of leadership. While this is particular to school principals, the relevance of this claim is also pertinent to Ministry policy in terms of the dimensions, especially those that Robinson derived from her meta-analyses of effective leadership on student outcomes.

These are: establishing goals and expectations; strategic resourcing; planning; coordinating and evaluating teaching and the curriculum; promoting and participating in teaching learning and development; and ensuring an orderly and supportive environment. An important consideration is whether programmes implemented by Schooling Improvement have taken the leadership dimensions and focused them on the needs of far more effective instruction for Pasifika students and how different adaptations by leaders relate to the fidelity of Schooling Improvement initiatives for Pasifika learners.

1.4.1 Pasifika 'achievement' and 'success'

The level of Pasifika student academic achievement arguably is the ultimate measure of how effectively schools are responding to the needs of Pasifika students (Education Review Office, 2006). But achievement is one aspect of broader understandings and aspirations for Pasifika 'success' (Airini & Sauni, 2004; Amituanai-Toloa, 2007b; Fuamatu, 2009). In this way, personal attributes, community service, mental and spiritual well-being, cultural competence and identity are seen as vital aspects of education, this being an education for life, and service. Thus, the purpose of education for Pasifika is viewed holistically. Consequently, the route to Pasifika student achievement is also holistic (Samu, 1998, as cited in Anae, 2007; Sauni, 2006). Research is beginning to explore who and where within formal school, community, family and the individual lies the responsibility for each aspect of the learner's journey towards success. Greater emphasis is being placed on research that supports improved learners' outcomes (for example, the Best Evidence research), and the role of teaching in improved outcomes (Alton-Lee, 2003; Hattie, 2003). While the research reported here does not explore directly these wider perspectives, it is important to note that these may be included in the goals of Schooling Improvement, and are not inconsistent given appropriate consideration with an unrelenting focus on achievement.

1.4.2 The evidence needed

The emerging best model for Schooling Improvement intervention relies on contextualised, reliable and valid information not only about achievement and instruction, but also on the range of Pasifika groups. Analysis of achievement data is one component of this, and the degree to which schools and clusters of schools have the capability and capacity to collect, manage, analyse and interpret longitudinal data becomes a constraint on their effectiveness. A commentary paper accompanying this report describes how widespread this constraint is and what might be needed to overcome it (Lai, McNaughton & Amituanai-Toloa, 2009). Currently the evidence is for mixed capability and capacity. The 2004 Education Review Office (ERO) report on Pasifika students in Auckland schools found that schools in the Auckland and Northland area were analysing assessment results in some subject areas (usually through PATs[6] in primary schools and national assessment results in secondary schools). Most schools that were able to comment on or report achievement levels noted that levels were lower for Pasifika students than for non-Pasifika students (Education Review Office, 2004).

In addition, however, the ERO evaluation (Education Review Office, 2004) proposed five key areas for schools, which they identified from the literature as supporting enhanced Pasifika outcomes in education and hence improving Pacific student achievement. These are:

- collecting and analysing Pasifika student achievement data
- Pasifika student achievement initiatives
- attendance and suspension information

[6] 'Progressive Achievement Tests' (Reid & Elley, 1991).

- teacher engagement of Pasifika students in learning
- school engagement with their Pasifika families and communities.

It is noteworthy that research into teacher engagement for improved Pasifika outcomes tends to focus on in-service professional development. The role of pre-service teacher education, including an awareness of students' languages and knowledge in preparing teachers for better Pasifika education outcomes, is yet to be fully researched. What is crucial for this list and would be predicted to be crucial in effective Schooling Improvement interventions is the process of gathering information on classroom instruction and relating this to the observed patterns of achievement. This is seldom done internationally but effective local research and development programmes have done this (Bishop et al., 2003; Phillips, McNaughton, & MacDonald, 2004; McNaughton, Amituanai-Toloa, Lai, MacDonald, & Farry, 2005), resulting in acceleration and sustainability of students academic achievement (Lai, McNaughton, Timperley, & Hsiao, 2009).

As noted above, whilst bilingualism and biliteracy are not often considered under the rubric of Schooling Improvement, it is nevertheless crucial to recognise expertise in Pasifika languages and knowledge as important components firstly for Pasifika holistically, and secondly for English academic achievement (Tabors & Snow, 2001; Perez, 2004; May & Hill, 2004). There is, therefore, an issue about the relative benefits of monolingualism in mainstream education and the effects of bilingualism and bilingual education. There is evidence to suggest that understanding how language develops for bilingual students can add to conceptualisation of bilingual education and its benefits (Amituanai-Toloa & McNaughton, 2008).

1.5 The Purpose of the Study: Aims and Research Questions

1.5.1 Purposes

- to identify the practices that work to raise achievement and close the gaps for Pasifika students especially at the classroom, school and cluster levels
- to find out how effective existing Schooling Improvement initiatives are in raising achievement for Pasifika students
- to provide information to help existing and new initiatives to improve their effectiveness for Pasifika students.

1.5.2 The research questions

The overarching research questions are:

1. What works in schools for Pasifika students and under what conditions?
2. What are the barriers to schools achieving positive learning outcomes for Pasifika students?

The Schooling Improvement specific research questions are:

1. Are the nine existing Schooling Improvement initiatives with significant numbers of Pasifika students bringing about significant gains in achievement for Pasifika students, and if so, what are the gains from each initiative and each school within the initiatives?

2. What, if any, are the differences between the gains seen in the Schooling Improvement initiatives for different student groups within Pasifika (ethnicity, gender, generation in New Zealand, language)?

3. If there were any significant positive gains identified in response to the questions above, what appears to have contributed to those gains?

1.5.3 What this report covers

In this report we evaluate the initiatives using a three step process. First we summarise the general achievement data across nine interventions that have high numbers of Pasifika students. This is followed by a close analysis of a Focus Cluster, in which we use detailed statistical procedures to examine features of students such as language status, gender and ethnicity to answer questions about the patterns of effects for Pasifika students. Essentially this section provides some insights into the question of whether interventions are meeting the needs generally of Pasifika students or if there are limited areas of effects.

This is followed by systematic case studies that provide quantitative and qualitative data on several general hypotheses at the level of school effects. These are that schools that are more connected with their communities will generally be more effective; that schools that have well embedded inquiry practices and have heightened sense of collective efficacy will be more effective; that schools in which instruction has specific features of quality and is culturally responsive (developing distinctive approaches for Pasifika learners) will be more effective; and lastly that there will be some attributes of students which are associated with greater gains and levels of achievement, probably relating to language status and familiarity with the New Zealand educational system. Also, that community beliefs and values relating to teaching and learning will provide further evidence of the features of schools that are likely to be more effective. In this last section we add the voices of students, their parents, teacher and Principals to provide rich and integrated tests of these hypotheses.

In addition to the above, because we were able to survey students from two clusters, we also have general descriptions of features of language status across schools, aspects of leadership patterns across schools and aspects of teachers' pedagogical content knowledge across schools.

1.6 Theoretical Approach

Improved Pasifika achievement does not come from accepting the status quo in instruction (Airini et al., 2007). Nor does it come from only improving some parts of the system, which includes schools, policy makers and researchers (Fullan, 1993). Better outcomes come from the kind of change that is dynamic; a force that creates deep and wide change for all those taking part in a project of national importance. These are the kinds of changes that bring about improvements in schooling necessary for better Pasifika student outcomes. In combination they signal key components essential to getting large scale high-quality school education cultures and practices geared towards Pasifika student success (Airini & Amituanai-Toloa, 2008).

1.6.1 Components of improved research for Pasifika achievement

Clearly, multiple components are needed in Schooling Improvement programmes. While this report provides more research evidence on what components are likely to be associated with greater effectiveness, more research is obviously required. As we noted above, there are several components needed to improve the quality of research examining Pasifika student achievement. The first is to develop an understanding of Pasifika peoples in Aoteroa New Zealand and detailed patterns of achievement in school. The second is to

apply rigourous models and methodologies for researching Pasifika achievement that incorporate Pasifika methodologies. Thirdly is to adopt a principled approach to scaling up research into Pasifika achievement, including ensuring there is a policy and strategic context for research into Pasifika education outcomes. Lastly, a link with Pasifika understandings of 'achievement' and 'success' must be made.

1.6.2 Components of Schooling Improvement

The review suggests several features that are likely to be present in effective Schooling Improvement for Pasifika students. We plot the general theoretical basis for these here, and then in the final section we outline key theoretical predictions. Interventions need to be based on the development of professional learning communities in schools. Such communities have several features. One is shared ideas, beliefs and goals. This means being very knowledgeable about the target domain (such as areas of literacy or numeracy), but it also entails detailed understanding of the nature of teaching and learning related to that domain. It also means having realistic (and not low) expectations about children and their learning (Timperley, 2003). A second feature of an effective learning community is that their goals and practices are based on evidence. That evidence should draw on close descriptions of children's learning as well as descriptions of patterns of teaching. This requires an analytical approach to the collection and use of evidence and critical reflection on practice rather than a comfortable collaboration in which ideas are simply shared (Ball & Cohen, 1999; Toole & Seashore, 2002). Yet another feature is that the researchers' and teachers' ideas and practices need to be culturally located. That is, ideas and practices that are developed and tested need to entail an understanding of children's language, literacy and numeracy practices as these reflect children's local and more international cultural identities. Importantly, this means knowing how these practices relate (or do not relate) to classroom practices and what 'funds of knowledge' they bring to the classroom (New London Group, 1996).

Recent international reviews of educational change suggest that when educators come to their planning and decision-making with an inquiry habit of mind, they consider the evidence informing their theories and engage in learning conversations, and powerful learning and sustainable improvement take place (Earl & Timperley, 2008). For example, in New Zealand, researchers have found that schools that regularly engage in critical discussions of student achievement data to improve teaching practices were more likely to sustain and improve on their current levels of achievement (Lai, McNaughton, Timperley et al., 2009; McNaughton & Lai, 2009; Timperley, Wilson, Barrar, & Fung, 2007). The research, therefore, shows that teachers should focus on what is 'good' or 'effective practice' rather than 'best practice'. Good practice requires the ability to interrupt automatic classroom and institutional routines in order to inquire in a sufficiently rigorous way about the nature of students' needs and how to meet them (Robinson & Lai, 2006). Best practice implies that teachers use an established teaching approach that has a reputation for being 'the best', the title of which can reflect either well-designed and conducted evaluations or nothing more than the popularity of the approach.

The most effective interventions are likely to be focused on classroom instruction as well as the relationship between the community and the school. The latter relationship is important not just for building practices that are complementary and mutually respectful but also so that students and families feel that the school reflects and constructs their identities and expertise in culturally appropriate ways.

1.7 Hypotheses

1.7.1 Connections

We have merged two perspectives to develop predictions about teaching, learning and schooling in the Schooling Improvement initiatives. One perspective draws on the Pasifika model of problem solving, and the other on the Western model of the ecology of human development. The Coconut model is a problem solving model adopted by Amituanai-Toloa (2005) with which to 'look across' the main influential players of the education sector in the different systems. These players include the researcher, the government, the Ministry of Education as its representative, the initiatives, clusters and schools, teachers, classrooms, students and parents. The model and its different layers enable us to identify the stakeholders and their influences and/or effectiveness in raising Pasifika student academic achievement.

While this Pasifika model enables us to 'look across', from the outside in, the other model, developed by developmentalist Uri Bronfenbrenner (1979) was adopted to look from inside out. Bronfenbrenner's original model used the analogy of Russian dolls and proposed that the immediate unit for development was the parent and child who constitute a 'microsystem'. In the case of schools a microsystem is formed by the teacher and student interacting together over time. The establishment of this microsystem creates the primary developmental vehicle in and through which developmental processes are constructed and learning occurs. For example, the attachment between a baby and its caregiver develops from the characteristics of the interactions co-constructed in this microsystem.

Bronfenbrenner's insight when he proposed this model was to understand that this system exists and is in turn constituted within other systems. This moved thinking away from the dominant models of development which located the development within the child constructing ideas from the immediate physical and social world. Moreover, the functioning and wellbeing of the microsystem is dependent on relationships with significant others and other microsystems within the next wider system.

He called the system of microsystems a 'mesosystem' and proposed a set of operating principles about how development is enhanced by the relationships within that system. These include the degree to which information flows between microsystems and the degree to which there is mutual articulation between the activities and features of guidance operating across microsystems. The two immediate microsystems that constitute a mesosystem for the students are the parent microsystems and the teacher microsystem.

Mesosystems are in turn embedded in the world of the local neighbourhood and the community. This next widest system, the 'exosystem', contains resources and institutions that impact on the mesosystem and microsystems. In schools it is the presence of high quality resources for teachers, and the coherence and other properties associated with a dynamic and effective professional learning community. From the community side, the presence of good public transport and community libraries, for example, would make a difference to whether families could access books to read during summer. Furthermore, the degree to which the selection and use of books and the guidance and forms of reading having similar properties to the activities of school reading would in turn impact on the child's development at school.

The theoretical prediction from the two views at the level of the community and its school is that an effective school (or cluster of schools) would have well developed connections with communities and families. The connections would be two way with a considerable flow of information both ways.

In addition, general models of parent 'involvement' distinguish between a range of types of involvement, from volunteering to participating with varied influence on students' achievement (Pomerantz, Moorman, &

Litwack, 2007). One broad distinction is between involvement based at school and involvement based at home. School-based involvement includes those practices in which parents are in actual contact and include such things as attendance at school meetings, talking with teachers, volunteering, and teacher aides. Home-based involvement takes two forms. The first is directly related to school, including assisting with school related tasks such as homework and course selection, and responding to academic endeavours. The second and less direct form involves academic related activities such as reading books to children and taking them to settings in which knowledge related to success at school can be acquired (e.g., museums).

Two models have been proposed for how this involvement impacts upon achievement. One is a skill development model which predicts that parents' involvement improves children's achievement through the skill-related resources provided. The second is a motivational development model which predicts that involvement provides children with a variety of motivational resources (such as intrinsic reasons for pursuing school academic goals, self efficacy and autonomy, and positive perceptions of school). These models are not mutually exclusive and it is likely that parents' involvement enhances achievement through both skill and motivational development (Pomerantz et al., 2007).

As Pomerantz et al. (2007) point out, while there is a large descriptive and correlational research base on these types and possible outcomes, there are limited experimental studies in either area. In general the literature tends to support the effects for school-based involvement on children's achievement, but the results are mixed for the effects of directly linked home-based involvement. The reason for the latter include how the manner (and content) of involvement at home can vary in terms of what parents actually do, but also in terms of with whom they are doing it.

A recent research synthesis of parent involvement in homework illustrates the issues (Patall, Cooper, & Robinson, 2008). One of the problems is that more involvement may occur with lower achieving students and hence concurrent correlations can show a negative relationship. The overall effect of parent involvement in homework is small and not consistent, varying among other things with age of the student. In terms of age, the greatest effects are for primary students in the elementary grades (Years 2 - 5) and for secondary students. The relationships are less strong for students in the middle school years. Important moderators include the type of homework set (reading and language are generally stronger relationships) and type of involvement (setting rules and direct guidance).

The international reviews do not examine two well-known forms of parent involvement in New Zealand; sending books home to read in the first years and direct tutoring such as Pause Prompt and Praise. The experimental literature on these is consistent with the above conclusions (McNaughton, 1995). That is, the more that appropriate resources are provided (such appropriate level texts) and especially the more information and direct guidance for how to carry out the practice is provided, the greater the impact. It is also the case that these effects have been demonstrated with Māori students, but less so with Pasifika students.

1.7.2 Inquiry and collective efficacy

Our hypothesis is that greater improvements in student outcomes through Schooling Improvement (and greater sustainability of any improvements) are associated with school and teacher inquiry. The process of inquiry requires not just examining what students need to know, but also what teachers and leaders need to learn to support their students (Timperley et al., 2007).

Inquiry is important because low progress could be associated with a variety of teaching and learning needs. Take for example the domain of reading comprehension. If a student obtains a poor score in a reading comprehension test, there could be a variety of reasons for the poor performance on the test. According to

Block and Pressley (2002), to comprehend written text, a reader needs to be able to decode accurately and fluently and to have a wide and appropriate vocabulary, appropriate and expanding topic and world knowledge, active comprehension strategies and active monitoring and fix-up strategies. In addition, researchers have also identified the teacher's role in incorporating cultural resources including event knowledge (McNaughton, 2002) and in building students' sense of self-efficacy and more general engagement and motivation (Wang & Guthrie, 2004).

Out of this array of teaching and learning needs, those for students and teachers in any particular instructional context may therefore have a context-specific profile. While our research-based knowledge means there are well-established relationships, the patterns of these relationships in specific contexts may vary. A simple example might be whether the groups of students who make relatively low progress in a particular context, say in a cluster of similar schools serving similar communities, have difficulties associated with decoding or using comprehension strategies or both, and how the teaching that occurs in those schools is related to those difficulties. Riddle Buly and Valencia (2002) provided a case study from a policy perspective on the importance of basing any intervention on specific profiles, rather than on assumptions about what children need (and what instruction should look like). In that study, a policy mandating phonics instruction for all students in the state of Washington who fell below literacy proficiency levels was shown to have missed the needs of the majority of students, whose decoding was strong but who struggled with comprehension or language requirements for the tests.

Recent research has implicated school and teacher inquiry in the raising and sustaining of achievement gains, particularly in literacy (Campbell & Levin, 2009; Lai, McNaughton, Amituanai-Toloa, et al., 2009; Lai, McNaughton, Timperley et al., 2009; Taylor, et al., 2005; Timperley et al., 2007). For example, in a local study, Lai, McNaughton, Amituanai-Toloa et al. (2009) found that a research-development approach based on inquiry to contextualise effective practices to the local needs resulted in an average achievement gain across cohorts followed longitudinally of 1 year's progress in addition to expected progress over that period with stanine effect sizes of $d = 0.62$. The size of the effect was higher than those reported internationally. Borman (2005) showed that national reforms of schools to boost the achievement of children in low-performing schools serving the poorest communities have produced small gains in the short term, with effect sizes on the order of less than 0.20. The inquiry processes used in the study was the ongoing and collaborative analysis and use of achievement data matched to teaching observations, which was used to alter teaching practices. The collaborations involved teachers, school leaders, researchers and Ministry of Education officials. The achievement gains made in this intervention were sustained one year after the intervention with statistical modelling showing that the accelerations in achievement were sustained at the same rate as that of the intervention (Lai, McNaughton, Amituanai-Toloa et al., 2009). Once again, inquiry was implicated in the sustaining of the achievement gains, with schools continuing the collaborative inquiry into their own practices to improve achievement outcomes. Case studies of higher achieving schools suggested that the teachers functioned as 'adaptive experts' (a sophisticated form of teacher inquiry), where the teachers integrated several forms of knowledge flexibly to solve the problems at hand.

The Lai et al. studies (Lai, McNaughton, & Amituanai-Toloa 2009; Lai, McNaughton, Amituanai-Toloa et al., 2009; Lai, McNaughton, Timperley et al., 2009) suggest the importance of collaborative inquiry, i.e., the role of professional learning communities in inquiring into their own data. However, it must be emphasised that not all communities are useful for developing collective inquiry. Rather the types of communities which are ideal for inquiring into data have the following features: accessing and testing multiple sources of knowledge and skills; critical reflection on the ideas shared in the professional learning community;

developing shared understandings; building collective efficacy; and building collective responsibility and collegial accountability.

A second but related hypothesis is that collective efficacy, or in other words, the collective belief that the school community can achieve its desired outcomes, is important in raising achievement. Strong collective efficacy in schools is important because it is a predictor of student achievement (Bandura, 1995). This is because collective efficacy helps members of the community to feel efficacious, making them more likely to seek solutions to problems they are encountering, more open to adopting new ideas and the like (McNaughton, 2002).

Implicit in the studies that used inquiry to raise achievement is the sense of collective efficacy. Teachers and schools developed innovative ways to change achievement patterns because there was a belief that those patterns could be changed by their actions. This is seen most clearly in the sustainability study, which showed that higher achieving schools reframed issues as problems to be solved rather than leaving them as explanations of the current situation (Lai, McNaughton, Timperley et al., 2009). This approach applied to problems that others might view as beyond the school's control such as teacher turnover.

1.7.3 Instruction and culturally responsive pedagogy

The theoretical framework related to specific instruction activities in the classroom adopted for this project has two major assumptions. The first is that effective instruction has generic properties that are known to be effective. The second is that one generic feature is that effective instruction is culturally responsive. The framework is outlined here. It has ten dimensions systematically identified in research integrations, syntheses and meta-analyses relating to effective instruction and teaching. Our theoretical prediction is that elements of these ten features (and the more holistic features of classrooms noted below) will be present in the Schooling Improvement schools in general, but also that greater presence would be associated with greater effectiveness.

1. Academic engaged time: A major determinant of the extent of learning and transfer in the classroom across domains (literacy, numeracy etc.) is the amount of actual time engaged in the subject matter and practice effects. More effective teachers promote and maintain extensive practice (see Bransford, Derry, Berliner & Hammerness, 2005; Darling-Hammond & Bransford, 2005).

2. Strategy instruction: Across domains (literacy, numeracy etc.) the developmental significance of strategies and the critical role of strategies in effective learning of academic skills/complex thinking are recognised. Domain-specific strategy instruction has become a well researched component of effective instructional practice (Bransford et al., 2005; Darling-Hammond & Bransford, 2005; Seidel & Shavelson, 2007).

3. Core knowledge: Across domains it is recognised that students need to develop an extensive and articulated base of knowledge appropriate to that domain. Domain-specific content knowledge is critical to effective learning (see Bransford et al., 2005; Darling-Hammond & Bransford, 2005; Seidel & Shavelson, 2007).

4. Vocabulary instruction: The significance of acquiring domain-specific vocabulary and an understanding of the way lexical items are used and language more generally across subject area is very important. In general, the more vocabulary (of particular sorts) a student has, the more vocabulary they are able to learn, and the more they are able to cope with and learn from complex academic tasks in literacy and numeracy (Hiebert & Kamil, 2005; Baumann & Kame'enui, 2004).

5. High level talk: Classroom discourse studies and language studies show the significance of elaborated or extended or non-immediate talk to student learning and to students' developing more elaborated knowledge and awareness (Cazden, 2001). The emphasis on inquiry at dialogic pedagogy in successful interventions reinforces this.

6. Feedback: Feedback in general, but in contemporary analyses, domain-specific feedback, is known to be a very significant component of effective instruction (Hattie & Timperley, 2007; Seidel & Shavelson, 2007).

7. Student awareness: The role of awareness, conceived in terms of both control and reflection, is a feature of newer models of complex cognitive development and student learning and figures significantly in the planning for strategy instruction (Bransford et al., 2005; Darling-Hammond & Bransford, 2005; McNaughton, 2002).

8. Differentiated instruction: The need to be able to tailor instruction to current levels of expertise is a fundamental principle in effective instruction. Just how this differentiation happens and how side effects such as Matthew effects in which the 'rich get richer' are avoided is still a research issue (Alton-Lee, 2003; Cazden, 2001; McNaughton, 2002).

9. Cultural responsiveness: The dimension of differentiation is allied to a second dimension, responsiveness based on the cultural and linguistic resources of students. Matthew effects are especially significant in the context of cultural and linguistically diverse students. But the recent research in New Zealand and elsewhere indicates that responsiveness, specifically with culturally and linguistically diverse students who find schools risky places, is especially significant and has pedagogical, cultural and affective properties (Bishop, et al., 2003; McNaughton, 2002). These do overlap with properties listed above (and below) but in principle need to be understood specially as forms of responsiveness to particular cultural contexts. The pedagogical properties, when examined in terms of instruction processes can be described as 'incorporation' and 'building awareness' (McNaughton, 2002). Incorporation includes use of cultural and linguistic resources or 'funds of knowledge' that children bring to school. In practice this means teachers draw on students' background and event knowledge, and they design and implement practices that build on preferred values and beliefs as well as use familiar discourse patterns. Building awareness includes those instructional practices which unlock unfamiliar tasks, texts, discourse features and pedagogical practices in ways that enable students to be as aware as possible of needs and requirements for effective learning. This means on the ground inquiry and critical thinking patterns (for example as built into the Te Kotahitanga project, Bishop et al., 2003) and high level talk by students as well as teachers, as well as highly informative and supportive feedback. The affective features cover areas such as respect by teachers, positive affect in which students feel valued as well the high expectations constructed in a context of emotional security. We would not expect a simple 'cover all' Pasifika pedagogy which homogenised this diverse group to be present in effective classrooms. Rather, we would expect adaptations which may look different for different groups with considerable differentiation to personalise instruction using generic knowledge of cultural and linguistic resources in Pasifika groups.

10. Expectations: The role of expectations is contentious and needs to be carefully operationalised. But teacher expectations when actualised in terms of task levels and forms of differentiated instruction clearly can create constraints for some learners, and both the individual and collective 'self efficacy' come to influence the commitment and effectiveness of teachers especially with culturally and

linguistically diverse students (Alton-Lee, 2003; McNaughton, 2002). In general, we would expect to see instruction in effective schools (or clusters) conveying high but achievable expectations.

In addition, we would expect some more holistic features of classrooms to be related to greater effectiveness. These include classroom resources, management and planning. Classroom effectiveness also includes aspects of the ambient environment (the resources and artefacts on walls and available to students within the classroom) as well as aspects of management and structure which partly determine 'engaged time' (Bransford et al., 2005). Previous research has attempted to capture these aspects too (e.g., Lai, McNaughton, Amituanai-Toloa et al., 2009; Parr, Timperley, reddish, Jesson, & Adams, 2006).

1.7.4 The student as a learner

Pasifika students themselves contribute to the effectiveness of Schooling Improvement interventions in schools. While Hattie (2009) calculated that up to 30% of the variance in achievement is attributable to teachers, he also noted from his meta-analyses that students bring 50% of the variance in achievement to the table. Their contribution is substantial and multifaceted.

There is the contribution of prior achievement and levels of knowledge. There are the metacognitive and personal regulation aspects of learning. There are motivational contributions and other psychological properties of being a learner, including beliefs and values about the nature of learning and the instruction or extrinsic reasons for success (Paris & McNaughton, in press). In addition, in this context there are attributes of language and familiarity with the New Zealand school system.

We held very open hypotheses about students. In the preceding literature review there is evidence that generally speaking the goals and motivations to achieve by Pasifika learners are high and we would expect the motivations of students in the project to be consistent with that evidence. The wider international literature suggests that intrinsic motivation and goals associated with self-regulated learning, while initially increasing across primary school, decrease at secondary school (Paris & McNaughton, in press) and the general expectation would be for that to be true in New Zealand also. The important finding from previous research is that accessing and understanding student voices provides very important insights from the students regarding all features of schooling including what works from their perspective. We would expect to find articulate and understandable insights in this project too. In addition, their voices provide important evidence for the planning of interventions.

There are open questions about the role of the learner's language and languages on achievement. There is little New Zealand research that can provide direct hypotheses. In general, as noted earlier, good grounding in an L1 can mean greater transfer from that language to a second (Tabors & Snow, 2001). Good grounding here includes well developed abstract or 'academic'/'decontextualised' language forms as well as a wide vocabulary. We did not measure these aspects of language, however, weak proxies for them might be found in the presence of an L1 or both an L1 and L2 at home and in the language first used by students. Similarly, being longer in the New Zealand system might be associated with higher achievement on an argument of increased familiarity with a system. But at best this would be a weak and highly contingent relationship (i.e., dependent on other attributes such as language and previous achievement).

2. Methods

2.1 Design

2.1.1 Shape of the research

The metaphor of the 'coconut model' (Amituanai-Toloa, 2005) and Bronfenbrenner's (1975) nested systems also guided the overall shape of the research. There was a deliberate attempt to understand the roles of the Ministry, the clusters of schools involved in the project, the schools themselves, the teachers and their classrooms, and the parents and students. The model takes into account the study's main purpose and goals and research questions, and was designed in three phases to enable the purpose and the research questions to be answered effectively. The original questions were in the Introduction (Section 1.5.2).

The overarching research questions are:

1. What works in schools for Pasifika students and under what conditions?
2. What are the barriers to schools achieving positive learning outcomes for Pasifika students?

The Schooling Improvement specific research questions are:

1. Are the nine existing Schooling Improvement initiatives with significant numbers of Pasifika students bringing about significant gains in achievement for Pasifika students, and if so, what are the gains from each initiative and each school within the initiatives?
2. What, if any, are the differences between the gains seen in the Schooling Improvement initiatives for different student groups within Pasifika (ethnicity, gender, generation in New Zealand, language)?
3. If there were any significant positive gains identified in response to the questions above, what appears to have contributed to those gains?

2.1.2 Process

Consultation

Several research team meetings occurred in the initial stages of the project to discuss and clarify expectations, roles and responsibilities, ethics, selection of participants and collection of the data in relation to the design and Schooling Improvement requirements as stipulated in the Research Funding Proposal. Advice was also sought from outside the research team, for example, the Ministry of Education and Schooling Improvement leaders were consulted, an advisory group was formed including Ministry personnel, Schooling Improvement personnel, researchers and community members, and other researchers were conferred with. Most important were the discussions around the approach the researchers would take in ensuring that what we do synergised with what the Ministry of Education in its Schooling Improvement policy wanted to achieve. For example:

- An introductory meeting between the Schooling Improvement team and the research team took place to share common goals as to how it would be best to align our processes with individual initiatives and schools. The research team, in collaboration with the Schooling Improvement team, developed

clarity on expected outcomes at different time points and what was to be included in milestone reports and the frequency at which these would occur.

- A further meeting to meet the Initiative Leaders took place. The purpose of this meeting was to discuss how the project would go forward.
- Meetings were held with the advisory group at each key milestone and before feedback went out to the participants.

Contact with initiatives, Focus Clusters and Case Study Schools

At each phase of the research key participants were contacted and notified about the research process. Contact with the participants in all three phases of the project was dependent on the approval of the ethics application for the first phase. It was understood that separate ethics applications needed to be submitted for the following two phases. However, the delay in approval presented implications for the progress of the project and it was not until the ethics committee notified of approval two months later, after the expected date that the first contact was made with the nine initiatives. In Phase One, all Coordinators of the nine initiatives were contacted and approached prior to the data collection phase. The purpose of the research was shared with them and the cluster was invited to participate in the project. The Cluster Co-ordinators took the participant information sheets (PIS) and consent forms back to their cluster. This was discussed at the next cluster meeting. Where possible the research team also attended this meeting to ensure that the information required by the researchers was communicated explicitly to them. However, due to the delay in ethics, and timing of the cluster meetings, the process of gathering the necessary consent forms and data from the clusters took longer than anticipated.

Given that the ethics application for the second phase and identification and selection of the Focus Clusters were to be made after the first phase was completed, the issues with the data from the nine initiatives also delayed contact with the selected Focus Clusters. The Focus Cluster Coordinators were notified once these were completed. Several meetings were held between the clusters and the researchers to clarify data requirements and to make known data upload dates. At these meetings Principals, Literacy Leaders and Cluster Co-ordinators were consulted, followed by a letter outlining the decisions and summarising the requirements for data collection.

A similar process was used for Phase Three. Contact with six Case Study Schools depended on the identification and selection of schools, four of which were part of Phase One. Contact could only be made on approval of the ethics application. A member of the research team, and in some cases, a Ministry of Education representative, approached the Principal of the school chosen to be a Case Study. The purpose of the project and data collection processes were explained, and participation was invited. Only when the consent had been given could the research team make contact to begin the data collection process. Due to the nature of school organisation and timetabling, this process took some time. For example, one school invited to be a Case Study declined to participate after several weeks of communication. There was a delay between initial contact and starting the data gathering process in all schools.

In follow-up of the research, a feedback session was scheduled with all clusters and Case Study Schools who participated in the project. Where possible, the findings from the data they supplied the research team have been fed back, as well as the general findings of the research reported on. At the time of completing this report, cluster feedback sessions have been completed, and all Case Study School feedback sessions are in progress.

2.1.3 Variation to research design

As a result of what we found during the course of the research we had to alter the research design, hence there is deviation from the proposed design.

The overall design sequence involved three major phases. Phase One was to look at student achievement across nine clusters within New Zealand, Phase Two was to be a more detailed examination of two clusters, while Phase Three would look in more depth at six Case Study Schools.

Phase One procedures – Schooling Improvement initiatives

Nine Schooling Improvement Initiatives were identified with high proportions of Pasifika students. Each cluster was approached and student achievement data was requested. Where possible it was requested for data over time, e.g., beginning and end of year tests for 2006 and 2007. Given that we could not collate the data at individual student level in some of the clusters, the research team collated cluster reports containing analyses of cluster-wide summary data as far back as clusters had reliable data, e.g., Ministry Milestone reports showing cluster data, and analysis reports from an external provider. We requested the summaries to contain descriptions of achievement over time e.g., Term 1 and Term 4 data for 2007, and that the summaries contain details of the numbers of students involved, their year levels, gender and ethnicities.

In order to understand how the data analysis summaries were constructed in light of wider cluster goals, as well as to check the quality of the reports, we asked clusters to provide us a sample of the raw data for the summary reports (e.g., the asTTle files) and cluster plans. We further asked the Cluster Leaders to report on how the administration of the test were standardised at cluster and school levels, and to report on any cluster or school-wide mechanisms for checking the accuracy of the data. The letter requesting this information is in Appendix A.

Once the letter was sent to schools, the schools were given a timeframe of 3 ½ weeks to return the information to us. However, the process of collecting this information from schools took seven months in total. There was a variety of contributing factors for the delay:

Two clusters agreed to participate but delayed their involvement in the project while they focused on other cluster-wide commitments. Data for these two clusters was received on the 12th of November and the 22nd December.

The research team required consent from all schools in the cluster before the data could be sent, and schools took varying lengths of time to provide consent.

Some clusters had reservations about sending their data due to historical data not being robust or data not being collated on a cluster-wide level in a uniformed way. This required ongoing communication between the research team and the Cluster Coordinators to reach a consensus.

Once data were received there were issues with data labelling that required further communication. These are discussed in other sections of this report. The level of communication required with each cluster ranged from 8 instances to 32 instances, not including unsuccessful attempts.

Once the responses were collated we examined the quality of the evidence of student achievement using the processes described in the data analysis section (see Section 2.4.1). As all databases contained some form of error, the verification process was to identify clusters where the databases or data reports contained errors that could potentially influence the results or its conclusions. Where the databases or data reports from each cluster could not be verified, we investigated further through additional data collection e.g., follow up

interviews with appropriate Cluster Leaders and Ministry officials, and collection of additional cluster documents.

A detailed report of the data-related issues and the Problem-Based Methodology (PBM) analysis of the reasons for the issues was compiled as feedback to each cluster. This report, coupled with a cluster discussion, would support the cluster to develop its capacity to store, analyse and report data. A separate report has been completed for the Ministry to address these issues (Lai, McNaughton, & Amituanai-Toloa, 2009).

The individual cluster feedback process to clusters and Ministry took place in two steps: firstly the draft report was tabled with the cluster analyst / data base manager, Ministry Coordinator and any other relevant Cluster Leader as designated by the cluster. The report was then tabled for discussion with the entire cluster.

Phase Two procedures – Focus Clusters

Phase Two was to complete an in-depth examination of two Schooling Improvement initiatives. This was to inquire further into the layers of the education system. One primary and one secondary Schooling Improvement cluster were selected. Data gathering took place on several layers. These layers were:

- School Leaders – Principal and Literacy Leader interviews
- Teachers – Leadership and Pedagogical Content Knowledge Surveys
- Students – achievement data, student surveys.

The Focus Clusters were asked to provide currently collected data on achievement with additional data on teacher, classroom, specific ethnicity and language. The purpose of this stage was to see what data was currently collected and available.

The Principals and Literacy Leaders at every school in the cluster were interviewed to ascertain the practices that had been put in place for and beliefs held about Pasifika learners. The Principal and Literacy Leader were invited to arrange a time to be interviewed by a researcher at a time suitable to them. The interview was based on a set of pre-determined questions. These interviews were later transcribed and analysed to determine common themes and draw theoretical conclusions.

To paint a picture of how the school management team led the school with regard to Pasifika ethnicities, a sample of teachers and senior management were invited to participate in a leadership survey. This was based on Heck's (2000) leadership survey and adapted to reflect the Pasifika focus of this research. Teachers were also invited to participate in a survey that evaluated their pedagogical content knowledge using a survey with examples of literacy teaching scenarios. All schools in Cluster A and 5 out of 9 schools in Cluster B returned some surveys (Section 4.0 and 5.0).

As information about students' first language and language spoken at home was not available in school databases a survey was developed. Schools were provided with sufficient copies to distribute to students in the target age range for completion. The surveys were collated by the Literacy Leader, and a member of the research team arranged collection of the completed surveys. The survey asked six questions about language spoken, country of birth and time in New Zealand. This was matched to students' achievement data to investigate if there were differences in achievement based on these variables.

The research team already had Cluster A's achievement data from previous work with the cluster. There were delays in receiving data and issues with the completeness and accuracy of data from Cluster B, therefore, it was not possible to analyse any of the findings in relation to student achievement.

Phase Three procedures – Case Study Schools

In Phase Three the inquiry went deeper and investigated educational practices at the school level. Initially six case studies were identified. The layers of investigation were similar to Phase Two, with the addition of classroom observations, as well as student and parent interviews. This allowed the research team to capture a holistic picture of the school community.

Once the consultation and consent process had been completed, Case Study Schools were approached for their achievement data. As in Phase Two Principal and Literacy Leader interviews were conducted, Leadership and PCK surveys were distributed, and students were asked to complete the student survey. To further investigate the research questions additional data was gathered at the classroom, student and parent level.

Case Study Schools were asked to identify two classes for observation. One was to be a teacher with high gains and one with average gains. Due to delays in earlier phases of the research, this process was begun in Term 4 of the school year. This resulted in schools identifying two teachers who were willing to participate, regardless of the levels of achievement of their students. Teachers were observed over three consecutive lessons on a set of criteria based on a theoretical view of effective teaching (see Section 2.3.2 for further details on qualitative measures). Following the series of observations, teachers were interviewed to gather further information about their practices and beliefs with regards to teaching Pasifika students.

From the two classrooms that were observed the teacher was asked to identify six Pasifika students; two high achieving, two mid achieving and two low achieving. These students were interviewed to ascertain their beliefs about school, motivation and future goals. We also gathered the collective and unique voice of Pasifika parents – a voice that expressed anxiously, but clearly, the desire of Pasifika parents for their children's future, and at the same time begs of the hearer to understand their reality.

Achievement data was only received in a usable form from five of the Case Study Schools. Due to financial and time constraints of the project it was decided to complete full analyses on four of the Case Study Schools. This was limited to the four Schooling Improvement schools, two from the Focus Clusters and two from other clusters.

2.2 Participants

In the following study we report on varied and overlapping groups of students. There is no one group of participants due to the various forms of data gathered, for example, achievement data; student surveys; and interviews with focus students. In some cases there was overlap between groups and in other cases there was no overlap. For example, in Cluster B we have student surveys about language, but not a complete database of student achievement. In some cases we had achievement data for students who didn't complete a student survey and vice versa. However, for most students we had both achievement and language data. Where possible we have described participants for each measure in each of the schools and clusters.

2.2.1 Phase one participants – Nine Schooling Improvement initiatives

To answer the first question regarding the effectiveness of Schooling Improvement initiatives in raising achievement for Pasifika students, nine clusters were identified and selected to participate in the project. These clusters, one from Hawkes Bay, two from Wellington and six from Auckland, were known to have significant numbers of Pasifika students. The clusters were coded as Cluster A to Cluster I according to their geographical locations. The clusters ranged in size from 5 schools to 30 schools, and covered a range of deciles in some clusters (e.g., Cluster E consisted of schools from Decile 1 to 10). There was a range of school type too, i.e., primary, full primary, intermediate, and secondary schools.

Cluster A

Cluster A has been working in relationship with the University of Auckland to gather and analyse data collectively since 2003. Cluster A consisted of six decile 1 primary schools with high proportions of Pasifika and Māori students (one school in the cluster declined to be involved in this project). Two were primary schools of Years 1 - 6 students. Two were full primary with students from Years 1 - 8, one was a middle school for Years 7 - 9 students, and one was an intermediate school with students at Years 7 and 8. The cluster had schools ranging in size from 231 to 407, with a total cluster population of 2341 Years 3 - 9 students[7]. Analyses of achievement data in Cluster A were conducted by a University of Auckland research team. A full description of this cluster's demographics is in Section 2.2.2 (Phase Two participants - Focus Cluster).

Cluster B

Cluster-wide data has been collected in Cluster B since 2004. Ten secondary schools were involved in this cluster at the time of analysis, though not all of the schools have been involved since inception. One school declined to be involved in the study, hence there were nine schools used for the project. The nine schools ranged from decile 3 to decile 8. Seven of the schools had Years 9 - 13 students, and two schools had Years 7 - 13. Four of the schools were single sex only, and two of these are integrated schools. Analyses of achievement data in Cluster B were conducted by a teacher in the cluster who was pursuing her doctoral degree.

The data we initially received was not a complete set for all of the students. For example, we received data from 2006 for predominantly Year 9 students, while the 2007 data had no year level specified. Due to the timing of receiving data, incompleteness and lack of clarity in the databases, we were unable to clean and create a complete data set for this cluster. We are unable to report, therefore, on any cluster demographics.

Cluster C

There were eleven schools in Cluster C, however, the research team received achievement data for eight of the schools. This cluster was established at the end of 2001. Neither the sizes of the schools nor the gender ratio could be determined using the information received e.g., gender was not recorded in the data. The analyses of the achievement data for Cluster C were conducted by an external consultant who worked with the cluster.

Based on the 492 students with matched reading achievement level data available, only 287 students, mainly lower year levels, had their ethnicity recorded. The ethnicity break down for this subgroup of 287 students was 38% who were identified with Pasifika ethnicities. Amongst the Pasifika students, 47% were Tongan,

[7] School roll numbers calculated from STAR data at Term 1, 2008.

35% were Samoan, 11% were Cook Island Māori, 7% were Niuean, and the rest were of 'Other Pasifika' ethnicities.

Cluster D

In 2008, Cluster D consisted of twelve schools with high proportions of Pasifika and Māori students. Of these schools, six were involved in collecting STAR data, eight writing data, and ten Numeracy data. The schools ranged in size from 99 to 310 students, with a total cluster population of 1140 Years 3 - 7 students[8]. This cluster has been gathering and analysing data collectively since 2004. Analyses of achievement data for Cluster D have been conducted by a University of Auckland research team through collaborative projects. Due to absence, transience and students leaving the schools at Year 6 to go to Intermediate schools, yearly pre-post analyses were conducted for the period of 2006 to 2007. Within the school year, student achievement was matched for comparison, but across school years, students were not necessarily matched.

In 2007, a total of 725 Years 4 - 6 students were identified by the research team for analyses of beginning and end of year data. 554 of these students (77%) were of Pasifika ethnicities. For those of Pasifika ethnicities, 51% were males and 49% were females. Half of the Pasifika students were Samoan (50%), while the rest were Cook Island Māori (27%), Tongan (18%), and from 'Other Pasifika' groups (5%) including Niuean, Fijian and 'Other Pasifika' groups. For the purposes of this analysis, four groups were analysed: Samoan, Tongan, Cook Island Māori and 'Other Pasifika' groups.

In 2006, a total of 663 Years 4 - 6 students were identified for analyses of beginning and end of year data. 495 of these students were of Pasifika ethnicities (75%). For those of Pasifika ethnicities, 53% were males, and 47% were females (gender of one student was unknown) and nearly half of these students were Samoan (49%), while the rest were Cook Island Māori (29%), Tongan (17%), and from 'Other Pasifika' groups (5%) including Niuean and Fijian.

Cluster E

Cluster E was initiated by the Ministry of Education in September 2002, and based on its final report in November 2007, the cluster contained 24 schools and has a total of 7171 Years 3 - 8 students as of March 2007. About 32% of all students were of Pasifika ethnicities that included Samoan (18% of all students), Tongan (5% of all students), Cook Island Māori (5% of all students), and the others summed to approximately 4% of all students. Cluster E works with the University of Auckland, and achievement data were analysed by a member of the Department of Statistics at the University of Auckland.

Cluster F

Established in 1998, Cluster F contained eight schools with Years 3 - 9 students. The size of the cluster could not be determined by their NCEA achievement data nor their asTTle data since the cluster did not have an 'official' cluster database for their NCEA results, and the asTTle data was based on the sample of two classes per school. The data were aggregated in each school and then given to the Literacy Coordinator. The analyses were conducted by one of the Initiative Leaders.

Cluster G

Made up of five schools, Cluster G was established in 2004. The total number of students ranged between 646 and 706 over 2006 and 2007. Approximately 9% of the students were of Pasifika ethnicities. The main Pasifika ethnicities included Samoan, Cook Island Māori, Tongan, and 'Other Pasifika', however, precise numbers of students for each ethnicity were not reported here as student numbers fluctuate from one time

[8] School roll numbers calculated from STAR data at Term 1, 2008.

point to another and student records were not matched over time. The gender ratio was about 50 - 50 across the four time points. The analyses of this clusters' data were conducted by an external contractor.

Cluster H

Nine schools were in Cluster H at the time of the research project, with students from Years 4 - 9. The cluster has been working with eight schools since 2003. The achievement data contained a total of 801 student entries, however, over the four time points in 2006 and 2007, the database contained between 738 and 781 achievement scores. There were 674 students matched across all time points. Of all students contained in the database 34.6% of those were of Pasifika ethnicities, with 72.2% of those being Samoan, 12.3% Cook Island Māori, 7.2% Tokelauan and 8.3% of other Pasifika ethnicities. For the Pasifika students, the gender ratio was approximately 50 - 50 across the four time points. It was unclear who conducted the analyses for the cluster.

Cluster I

Cluster I contained seven primary schools, but as the research team did not receive data for verification, they could not identify the sizes of the schools, and the proportion of Pasifika students. It was unclear who conducted the analyses for the cluster.

2.2.2 Phase Two participants – Two Focus Clusters

Two Focus Clusters were identified from the nine Schooling Improvement initiatives to investigate the overarching research questions, and specifically what:

- differences occur in the Schooling Improvement initiatives for different student groups within Pasifika (ethnicity, gender, generation in New Zealand, language)
- practices in schools and initiatives work and do not work for Pasifika students
- barriers exist to schools achieving positive learning outcomes for Pasifika students.

One cluster (Cluster A) was made up of primary schools, while the other was a secondary school cluster (Cluster B). These two clusters were identified based on two criteria: the keen interest shown by the cluster, and the collection and analysis of Pasifika student achievement data (see Section 1.6.2 for a description of cluster practices). While it was intended that both clusters would provide quality student data for detailed examination, the incompleteness and delay in receipt of Clusters B's data meant we were not able to examine their student achievement data. However, we did collect Principal and Literacy Leader interviews, teacher surveys, and student surveys from the cluster.

Focus Cluster Principals and Literacy Leaders

The research team interviewed 13 Principals and 13 Literacy Leaders. Of the Principals, 9 were male and 4 were female. There were 10 female Literacy Leaders and 3 males. The Principals and Literacy Leaders represented 14 schools ranging in decile from 1 to 8. Five Principals and five Literacy Leaders were from Cluster A, and eight Principals and eight Literacy Leaders were from Cluster B, secondary. The Focus Clusters' Principals and Literacy Leaders were also invited to take part in two surveys; the leadership survey and the Pedagogical Content Knowledge (PCK) survey.

Focus Cluster teachers

Teachers in the Focus Cluster Schools were also invited to take part in the two surveys, Leadership and PCK. In primary schools, all teachers who taught Years 4 - 8 were invited to participate, while at secondary schools teachers who taught Years 9 and/or 10 English were invited to participate. Across eleven of the

Focus Cluster Schools[9] 59 teachers completed the leadership survey, 15 from Cluster A and 44 from Cluster B. Of the teachers who completed the leadership survey, 42 were New Zealand European, 6 were Pasifika (Samoan = 4, Tongan = 1, Cook Island Māori = 1), 9 were of "Other" ethnicity and 2 did not specify their ethnicity. There were 13 males, 44 females, and 2 who did not specify their gender. 147 teachers completed the PCK survey, 76 from Cluster A and 71 from Cluster B. Gender and ethnicity information was not collected on the PCK survey. A full description of the demographics is found in Sections 4.0 and 5.0.

Focus Cluster students

For the purpose of this project, Years 4 - 8 students from primary and intermediate schools and Years 9 and 10 students from secondary schools were invited to participate. A total of 6850 students from the two clusters were involved in the project of whom 3163 were primary and 3687 were secondary. Note that this figure includes all students from whom we received data, either achievement data and/or a student survey. Some of the achievement data we received was unable to be entered into the database (8 schools), therefore, the number of students from which we received student surveys may not represent the total number of students who completed assessments. Of the 4268 students for whom we had gender information[10] 1988 (47%) were male and 2280 (53%) were female. There were 3070 students with ethnicity information at primary level, of which 2470 (80%) were Pasifika. The Pasifika students were made up of Samoan (44%), Tongan (29%), Cook Island Māori (19%), Niuean (6%), Tokelauan (1%), Fijian (1%) and Other Pasifika (n = 2). At secondary level we had reliable information about ethnicity from 608 students. Of these 310 (51%) were Pasifika. Across primary and secondary, of the 3678 students who had ethnicity information 2780 (76%) were Pasifika.

Cluster A pre-test 2007 sample

A total of 1311 Pasifika students sat the STAR test in Term 1, 2007. These students were from Years 4 - 8 only. The mean score for these students was 3.27 (SD = 1.56). 648 (49%) of these students were male and 663 (51%) were female. Ethnic groups included 602 Samoan students (46%), 339 Tongan students (26%), 264 Cook Island Māori students (20%), 82 Niuean students (6%) and 15 Tokelauan students (1%). Less than 1% were Fijian (n = 8), and from other Pacific Islands (n = 1).

Means by ethnicity are presented in Table 1. Students of ethnicities other than Samoan, Tongan and Cook Island Māori were summarised as 'Other Pasifika' (n = 106).

Table 1: Mean STAR scores by Ethnicity for Cluster A Pre-test 2007 Sample

	M	*SD*	*n*
Tongan	3.01	1.48	339
Cook Island Māori	3.22	1.62	264
Samoan	3.39	1.55	602
Other Pasifika	3.64	1.63	106
Total	3.27	1.56	1311

Cluster A longitudinal cohort

A longitudinal sample of 715 students who were Years 4 - 9 at the beginning of 2007 was identified by the research team across four time points. This group of students comprised five cohorts that were tracked

[9] Four Focus Cluster schools did not return any surveys.

[10] Gender was not one of the student survey questions, hence not all students have gender information. Four of the schools are single sex schools so gender was assigned accordingly.

through all four tests across 2007 to 2008 (Pre-test 2007, Post-test 2007, Pre-test 2008, and Post-test 2008). The five cohorts were Year 4 2007 - Year 5 2008 (n = 147), Year 5 2007 - Year 6 2008 (n = 146), Year 6 2007 - Year 7 2008 (n = 102), Year 7 2007 - Year 8 2008 (n = 254) and Year 8 2007 - Year 9 2008 (n = 66).

Nearly half of these students were Samoan (47%), while the rest were Tongan (27%), Cook Island Māori (17%) and from 'Other Pasifika' groups (9%) including Niuean, Tokelauan, and Fijian. Only one student was from a Pasifika group other than those listed here. For the purposes of this report, four main groups were analysed: Samoan, Tongan, Cook Island Māori and 'Other Pasifika' groups. There were more female students (53%) than male students (47%).

Cluster A student survey respondents

In total 1192 students completed the student survey across the six schools. 894 of these students were identified as being of a Pasifika ethnicity. This group was made up of 399 Samoan (45%), 262 Tongan (29%), 165 Cook Island Māori (18%), 51 Niuean (6%), 8 Tokelauan, 8 Fijian, and 1 student from 'Other Pasifika'. More than half of these students (52%) reported first speaking a Pasifika language with a further 4% reporting that both a Pasifika language and English was their first language. The most commonly spoken language at home for this group of students was English (55%). 35% reported that a Pasifika language was the language spoken most at home and a further 8% reported that they spoke both a Pasifika language and English at home.

Cluster B student survey respondents

A total of 3272 students completed the student survey. As reliable ethnicity information was not available, the numbers reported here are for all students, unlike in Cluster A where Pasifika only numbers were reported. Around three quarters of students (73%) reported that their first language was English. Only 8% reported first learning a Pasifika language and 2% both a Pasifika language and English. 80% of students reported that English was the main language spoken at home. A Pasifika language was the main language spoken for 5% of students, with another 3% reporting that they spoke a Pasifika language and English at home.

2.2.3 Phase Three participants – Six Case Study Schools

Following our original design six schools were approached to be involved as Case Study Schools. The purpose of this phase of the research was to further elaborate on the second to fourth research questions regarding the differences that occur between the gains in the Schooling Improvement initiatives for different student groups within Pasifika (ethnicity, gender, generation in New Zealand, language), practices in schools and initiatives that work; and the practices that do not work; for Pasifika students, barriers to schools achieving positive learning outcomes for Pasifika students. Principal and Literacy Leader interviews, Leadership and PCK surveys, classroom observations, teacher interviews, student surveys, and student and parent interviews were conducted at the schools. Although six agreed, we received achievement data in a usable form from five of the schools after repeated requests. Due to time constraints we were able to use achievement data for analysis from four of the schools (Case Study Schools 1 to 4). We were still able to collect most of the qualitative data from Case Study Schools 5 and 6.

Case Study Schools

Six Case Study Schools were identified for the final phase of the project. Three were primary schools (Case Studies 1, 3 and 5) the other three were secondary schools (Case Studies 2, 4 and 6). All except Case Study 2 were South Auckland schools and all except two (Case Studies 5 and 6) were state schools. Two schools (one primary and one secondary school) were identified from the two Focus Clusters selected for Phase Two

(Case Studies 1 and 2). Two other schools (one primary and one secondary) were selected from among the seven initiatives not identified as Focus Clusters (Case Studies 3 and 4 respectively) and the last two schools (one primary and one secondary) were schools not involved in Schooling Improvement initiatives at the time of the research project (Case Studies 5 and 6). The latter schools were selected from a shortlist prepared in consultation with the Ministry. Schools were known to be particularly effective with their Pasifika students on the basis of their existing data available to the Ministry of Education and from indicators such as student engagement. These schools were selected for 'positive deviance' (a term borrowed from the medical research literature to mean examples of positives against the trend). These will be examples of very effective schools in one or more of the clusters judged by achievement data and other educational indicators such as student engagement in the school, and beyond. See Table 2 for a summary of the year levels taught and decile rating for each of the Case Study Schools.

Table 2: Case Study School Year Levels Taught and Decile Rating

School	Year Levels	Decile
Case Study 1	1 - 8	1
Case Study 2	9 - 13	3
Case Study 3	1 - 6	1
Case Study 4	9 - 13	1
Case Study 5	1 - 8	2
Case Study 6	7 - 13	2

Case Study Schools Principals and Literacy Leaders

Six Principals and five Literacy Leaders from the Case Study Schools[11] were interviewed. Five of the Principals were male, one was female, and all five of the Literacy Leaders were female. The Case Study Principals and Literacy Leaders were also invited to take part in two surveys; the leadership survey and the Pedagogical Content Knowledge survey.

Case Study Schools teachers

Teachers in the six Case Study Schools were also involved in the two surveys; Leadership and Pedagogical Content Knowledge. In primary schools all teachers who taught Years 4 - 8 were invited to participate, while at secondary schools teachers who taught Years 9 and/or 10 English were invited to participate. Across five of the Case Study Schools 22 teachers completed the leadership survey and 55 teachers completed the PCK survey. Despite the instructions provided some schools returned surveys from other staff members, for example, Year 2 teachers, teacher aides etc. Of the teachers who completed the leadership survey fifteen were New Zealand European, two were Samoan, and five were of "Other" ethnicity; six were male and sixteen were female. Gender and ethnicity information was not collected on the PCK survey. A full description of the demographics and findings of the surveys can be found in Sections 4 and 5.

From each of the six Case Study Schools, two classroom teachers were selected for observations. Altogether, twelve teachers were observed, six of whom were from primary schools and the other six from secondary schools. Of the four males, two were primary school teachers and two (including the Samoan bilingual teacher) were secondary school teachers. There were four female teachers from primary schools and four from secondary schools. Following a series of observations, the teachers were interviewed, where timetabling allowed, to further examine their beliefs.

[11] This includes two schools who were interviewed as part of phase two.

Case Study Schools students

A total of 3002 students from the six Case Study Schools were involved in the project. Of these, 1192 were primary students (Case Study 1 (n = 635), Case Study 3 (n = 325), Case Study 5 (n = 232)), and 1810 were secondary students (Case Study 2 (n = 647), Case Study 4 (n = 1093), Case Study 6 (n = 70)). Note that this figure includes all students who we received data from, either achievement data and/or a student survey. The achievement data we received from two of the schools was unable to be entered into the database. Not all students at schools completed the student survey, therefore the number of student surveys we received does not align with the number of students who completed assessments and were present at the school. Of the 2441 students we had gender information for[12] 926 (38%) were male and 1515 (62%) were female. There were 939 students with ethnicity information at primary level, of which 716 (76%) were Pasifika. The Pasifika students were made up of Samoan (41%), Tongan (26%), Cook Island Māori (23%), Niuean, (8%), Fijian (1%), 'Other Pasifika' (n = 3), and Tokelauan (n = 2). At secondary level we had reliable information about ethnicity from 1539 students. Of these 652 (42%) were Pasifika. Across all schools, from the 2478 students for whom we had ethnicity information, 1368 (55%) were Pasifika. Table 3 summarises the demographics across the six schools.

[12] Gender was not one of the student survey questions, hence not all students have gender information. One of the schools was a single sex school so gender was assigned accordingly.

Table 3: Gender and ethnicity for Case Study Schools

		Case Study Schools											
		1		2		3		4		5 [1]		6 [1]	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Male	312	50%	0	0%	156	50%	388	49%	276	46%		900%
	Female	316	50%	647	100%	155	50%	397	51%	324	54%		10%
	Total	628	100%	647	100%	311	100%	785 [2]	100%	600	100%	310	100%
Ethnicity	Tokelauan	2	0%	0	0%	0	0%	0	0%				
	Fijian	8	1%	0	0%	0	0%	17	2%				
	Niuean	49	8%	0	0%	5	2%	13	1%				
	Tongan	132	21%	0	0%	53	17%	33	4%				
	Cook Island Māori	117	19%	0	0%	50	16%	61	7%				
	Samoan	182	29%	0	0%	115	37%	199	21%				
	Other Pasifika Islands	2	0%	0	0%	1	0%	19	2%				
	Pasifika not specified[3]	0	0%	310	51%	0	0%	0	0%		64%		41%
	Other[4]	136	22%	298	49%	87	28%	589	63%				
	Total	628	100%	608	100%	311	100%	931	100%				

1. We were unable to create a database using this school's data, therefore data estimated from ERO reports.

2. We did not receive gender information for one year level, hence the total is less than 931.

3. Ethnicity information taken from asTTle which does not specify specific Pasifika ethnicity.

4. This category includes New Zealand European, Māori, and other ethnicities, such as South East Asian.

Case Study Schools Pre-test 2007 samples

We were unable to break Pasifika students' achievement down by specific Pasifika ethnicity for Case Study Schools 2 and 4, therefore we report only the Pasifika students' mean achievement here. For Case Study Schools 1 and 3 we were able to report means for four Pasifika groups: Tongan, Cook Island Māori and 'Other Pasifika' which includes ethnicities such as Niuean, Tokelauan and Fijian. Therefore these two schools have results reported in tables (Table 4 and Table 5).

Case Study 1

A total of 296 Pasifika students sat the STAR test in Term 1, 2007. These students were from Years 4 - 8. The mean score for these students was 3.17 (*SD* = 1.46). 145 of these students were male and 151 were female. Ethnic groups included Samoan (*n* = 121), Cook Island Māori (*n* = 71), Tongan (*n* = 69), Niuean (*n* = 31), Fijian (*n* = 3) and 'Other Pacific Islands' (*n* = 1).

Means by ethnicity are presented in Table 4. Students of Pasifika ethnicities other than Samoan, Tongan and Cook Island Māori were summarised as 'Other Pasifika' (*n* = 35).

Table 4: Mean STAR scores by Ethnicity for Case Study 1 Pre-test 2007 Sample

	M	*SD*	*n*
Tongan	2.96	1.37	69
Cook Island Māori	2.93	1.44	71
Samoan	3.27	1.38	121
Other Pasifika	3.71	1.78	35
Total	3.17	1.46	296

Case Study 2

In total, 96 Pasifika students sat the asTTle Reading test in Term 1, 2007. As asTTle scores are not comparable across year levels, i.e., Year 10 students should be scoring at higher levels than Year 9, only Year 9 students were used for this sample. The mean score for these students was 525.67 (*SD* = 65.26).

Case Study 3

There were 60 Pasifika students that sat the STAR test in Term 1, 2007. These students were from Years 4 to 6. The mean score for these students was 4.23 (*SD* = 1.51). Amongst the 60 students, 28 of these students were male and 32 were female. Ethnic groups included Samoan (*n* = 29), Cook Island Māori (*n* = 15), Tongan (*n* = 14), Niuean (*n* = 1) and 'Other Pacific Islands' (*n* = 1).

Means by ethnicity are presented in Table 5. Students of ethnicities other than Samoan, Tongan and Cook Island Māori were summarised as 'Other Pasifika' (*n* = 2).

Table 5: Mean STAR scores by Ethnicity for Case Study 3 Pre-test 2007 Sample

	M	*SD*	*n*
Tongan	3.36	1.34	14
Cook Island Māori	4.80	1.26	15
Samoan	4.38	1.59	29
Other Pasifika	4.00	1.41	2
Total	4.23	1.51	60

Case Study 4

As asTTle scores are not comparable across year levels, i.e., Year 10 students should be scoring at higher levels than Year 9, only Year 9 students were used for this sample. Of the students whose ethnicity information we received[13], 61 Pasifika students sat the asTTle Reading test in Term 1, 2007. These students were all from Year 9. The mean score for these students was 453.39 (*SD* = 52.73). 25 of these students were male and 36 were female. Ethnic groups included Samoan (*n* = 36), Cook Island Māori (*n* = 8), Tongan (*n* = 7), Niuean (*n* = 4), Fijian (*n* = 4) and 'Other Pacific Islands' (*n* = 2).

Case Study Schools longitudinal cohorts

Case Study 1

A total of 163 Pasifika students could be matched for all four time points from 2007 to 2008. Four cohorts could be tracked. Cohort 1 was Year 4 2007 - Year 5 2008 (*n* = 34), Cohort 2 was Year 5 2007 - Year 6 2008 (*n* = 36), Cohort 3 was Year 6 2007 - Year 7 2008 (*n* = 41) and Cohort 4 was Year 7 2007 - Year 8 2008 (*n* = 52). The main Pasifika ethnic groups were Samoan (*n* = 60), Tongan (*n* = 47), Cook Island Māori (*n* = 35), Niuean (*n* = 20) and from 'Other Pasifika' groups (*n* = 1). There were more females (*n* = 90) than males (*n* = 73).

Case Study 2

A total of 74 Pasifika students could be matched for three time points from 2007 to 2008 (Pre-test 2007, Post-test 2007, and Post-test 2008). This cohort was in Year 9 in 2007 and Year 10 in 2008. Specific Pasifika ethnicity data was not available with the asTTle data. All 74 students were female as this is a single sex school.

Case Study 3

A total of 29 Pasifika students could be matched for all four time points from 2007 to 2008. As the school only has students up to Year 6, two cohorts could be tracked. Cohort 1 was Year 4 2007 - Year 5 2008 (*n* = 18), and Cohort 2 was Year 5 2007 - Year 6 2008 (*n* = 11). The Pasifika ethnic groups were Samoan (*n* = 14), Cook Island Māori (*n* = 8), Tongan (*n* = 6) and from 'Other Pasifika' groups (*n* = 1). There were more females (*n* = 17) than males (*n* = 12).

Case Study 4

A total of 50 Pasifika students could be matched for three time points from 2007 to 2008 (Pre-test 2007, Post-test 2007, and Post-test 2008). This cohort was in Year 9 in 2007 and Year 10 in 2008. The Pasifika

[13] We were missing ethnicity information for the 2007 students, however we were able to match the Year 10 2008 ethnicity information to the Year 9 2007 data for most of the students.

ethnic groups were Samoan (*n* = 30), Tongan (*n* = 7), Cook Island Māori (*n* = 4), Fijian (*n* = 4), Niuean (*n* = 4) and from 'Other Pasifika' groups (*n* = 1). There were more females (*n* = 32) than males (*n* = 18).

Case Study Schools focus students

For the student interviews, teachers were asked to select six Pasifika students; two high achieving, two mid achieving and two low achieving. However, due to time constraints, instead of the planned 72 students, a total of 57 students were interviewed. The year level of students ranged from Years 4 - 9 across the six schools with almost equal proportions of males and females. In this sample, the majority were Samoans (53%) followed by Tongans (21%) with smaller proportions of 'Other Pasifika' groups e.g., Cook Islands (7%), Fijian Indian (2%). 14% of students were identified as having multiple ethnicities and 4% were from 'Other' ethnicities. Of the sample, 69.5% were New Zealand born, 8.3% were born elsewhere and 22.2% did not state their birth place. See Table 6 for further detail on the student demographics.

Table 6: Demographics of Students Interviewed (n = 57)

		n	*%*
Gender			
	Male	28	49%
	Female	29	51%
Ethnicity			
	Tongan	12	21%
	Samoan	30	53%
	Cook Island	4	7%
	Fijian Indian	1	2%
	Mixed	8	14%
	Other	2	4%
School			
	Primary	25	44%
	Secondary	32	56%
Home Language			
	Samoan	5	9%
	Samoan and English	17	30%
	Tongan	1	2%
	Tongan and English	12	21%
	Cook Island	2	4%
	English only	15	26%
	Mixed	3	5%
	Unknown	2	4%
Birth Country			
	New Zealand	42	74%
	Others	6	11%
	Unknown	9	16%

Case Study Schools parents

The parents of each of the six students selected from each of the twelve classrooms were approached for interviewing in Phase Three. It was expected 72 parents would be identified, one from each family group. Note that 'Parents' here is used to refer to a primary caregiver available for interviewing and could be a mother, a father, a grandmother, a grandfather, an aunt or a guardian. In cases where two parents were available, these interviews are treated as a composite. In total, 48 (84%) of the parents who were approached agreed to participate, however, only 28 (49%) kept their interview appointment.

Table 7: Number Of Parents By Ethnicity, School Attended By Their Children, And Locality

Parent Ethnicity	*n*	Locality			Secondary School	Primary School
		South	Central	West		
Samoan	15	12		3	7	8
Tongan	9	8	1		7	2
Niuean	1	1				1
Cook Island Māori	1	1				1
Fijian Indian	1			1	1	
Iraqi	1	1				1
Total (*N*)	28	23	1	4	15	13

Table 7 illustrates three features: the number of parents who participated; the ethnicity of parents by locality; and the type of school parents' children attended.

Out of 28 parents, 15 were Samoan; 9 were Tongan; 1 was Niuean; 1 was Cook Island Māori; 1 was Fijian Indian; and 'Other' ethnicities had 1 parent participate (Table 7). The majority of parents (n = 23) resided in South Auckland; one in Central Auckland and four in West Auckland. Children of 15 parents attended secondary schools while children of the other 13 parents attended primary schools.

2.3 Measures

2.3.1 Quantitative measures

Literacy measures in English

To examine literacy achievement, the majority of clusters used the Supplementary Test of Achievement in Reading (STAR) (Elley, 2001), Progressive Achievement Tests (PAT) in Reading (Reid & Elley, 1991) and/or asTTle (reading and/or writing). Two clusters that have secondary schools used asTTle (reading and/or writing).

Supplementary Tests of Achievement in Reading (STAR)

STAR was designed to supplement the assessments that the teachers make about students' close reading ability in Years 4 - 9 (Elley, 2001). In Years 4 - 6, the test consists of four subtests measuring word recognition (decoding of familiar words through identification of a word from a set of words that describe a familiar picture), sentence comprehension (complete sentences by selecting appropriate words), paragraph comprehension (replace words which have been deleted from the text in a 'Cloze' format) and vocabulary range (find a simile for an underlined word). All but the third subtest are multi-choice and consist of 10

items, while subtest 3 is a cloze procedure containing 20 items. In Years 7 - 9, the test consists of two more subtests measuring the language of advertising (identify emotive words from a series of sentences) and reading different genres or styles of writing (select phrases in paragraphs of different genres which best fits the purpose and style of the writer). In Years 7 - 9, except for paragraph comprehension which consists of 20 items, there are 12 items per subtest instead of 10.

Progressive Achievement Tests PAT

PAT Reading measures both factual and inferential comprehension of prose material in Years 4 - 9. Each prose passage consists of 100 - 300 words and is followed by four or five multi-choice options. The prose passages are narrative, expository and descriptive, and different year levels complete different combinations of prose passages. The proportion of factual to inferential items per passage is approximately 50/50 in each year level.

AsTTle reading

The criterion referenced (to the national curriculum) asTTle tool (Glasswell, Parr & Aikman, 2001; Hattie et al., 2004) has associated national normative data for Years 4 - 12. Tests are made up of items from eleven reading purposes (e.g., finding information, thinking critically, understanding, etc). Tests are made up by selecting three purposes. A marking guide is provided for each test to ensure marking is consistent.

AsTTle writing

Accompanying the standardised tests are scoring rubrics for each of six writing purposes (e.g., explain, persuade, etc). Seven dimensions of writing are scored (audience, structure, content, language resources, grammar, spelling and punctuation). For each writing purpose, each dimension and curriculum level of achievement has detailed criterion statements to ensure marking is consistent.

Connecting language and achievement

To analyse student achievement by language variables, the data gathered from the student survey (see Qualitative Measures below) was merged with the student achievement data. This was done through a careful checking process using information such as name and class information to match a student's survey response with their achievement data. This provided five additional variables to analyse achievement by, namely: first language spoken, language spoken at home, country of birth, time in New Zealand, parents' birth country. See Section 2.4.1, Quantitative Analytic Techniques, for a description on how this data was analysed.

2.3.2 Qualitative measures

Learning community and their beliefs

Leadership interviews

Interviews were conducted with school leadership, Principal and Literacy Leader, of the Phase Two Focus Cluster Schools and Phase Three Case Study Schools. The purpose of these interviews was to probe school leaders about their understandings and beliefs in relation to the practices the school has in place with regards to Pasifika students. The researchers wanted to establish what policies and programmes the schools had in place for targeting Pasifika achievement. The questions were grouped under six themes:

- Schooling Improvement Initiatives
- effectiveness of Initiatives

- policies for Improving Pasifika student achievement
- services for Pasifika students struggling academically
- support provided for teachers & Literacy Leaders
- role of Parents and Community.

It was anticipated that these questions would create a framework from which to hang the voices of the other school community participants. In other words, we wanted to establish if what school leaders thought they were doing, including how and why, was reflected by what teachers, students and parents reported. For a full set of questions see Appendices B and C.

Teacher interviews

Following the classroom observations, when possible, an interview was conducted with the teacher. There were no set questions for this; rather a critical incidence technique was used. This allowed the researcher to probe further on any questions they had about the lesson observed e.g., what was the rationale for doing that in today's lesson? Like the talanoa, this process is a more open conversation and it was felt that this would elicit a greater depth of information from the teachers than a more formal interview. It also enabled the researcher to respond to what was observed and think critically on the lesson. Some interviews were recorded and transcribed. Most were informal, however, and notes were taken to add value to the observation data gathered. In some instances teachers shared copies of handouts such as a student developed marking guide for assessing presentations.

Student interviews

As stated above it was important to capture the voices of the students, as they are a key part of the system of teaching and learning in classrooms. This is particularly to hear student and parent voices and their views and beliefs about what they see schooling or education as and what their ideas are of what education for them should be about. A critical incidence technique was again employed to enable the researcher(s) to respond to what was seen in the observed lessons. There was also a set of guiding questions (see Appendix D for a complete set of questions). It was anticipated that these interviews would further elaborate on the beliefs and values held within the school, as well as highlight students' perspectives on education and their goals and ambitions.

Talanoa (parent interviews)

As a Pasifika research project, it was important that the interviews with Pasifika parents were carried out in a 'talanoa' (conversation) format. Talanoa is well known in the Pacific region as a talking methodology. The term is made up of two words; 'tala' meaning 'talk' or 'story', and 'noa' meaning 'nothing' or 'void'. 'Noa' can also mean 'never ending' or continuous. Talanoa means to have a conversation, to relate something, or simply to 'talk story'. It enables stories to be told and shared in a nonthreatening manner within the 'va-tapuia' (sacred space) through 'fa'aaloalo' (respect) in the face to face encounter between participants and people in general (Amituanai-Toloa, 2002). Talanoa is increasingly becoming a more suitable alternative to the Palagi (European) structured interview method of qualitative data gathering. This is because it elicits situations through the eyes of the participants – explicit situations which sometimes emerge unexpectedly in the course of talanoa but which might not have been so if it had been by any other method.

While the talanoa with parents highlighted their concerns, carrying out the interviews by a Pasifika researcher added value to the information gathered in a sense that through the talanoa trust had embraced both the participants and the researcher based on talanoa principles. These principles are: reconciliation;

inclusion; sincerity; honesty; and respect for each other as individuals, along with respect for spirituality and human values. Through the talanoa methodology the sharing of ideas, beliefs, perspectives and reciprocity of respect ensures, therefore, a collaborative and collective outcome to be discussed for the purpose of providing feedback.

The main purpose of conversing with parents was to hear parents' voices, their views and beliefs about what they see schooling or education as, and their ideas of what education for them and their children should be about. What do parents think of the school and teachers within it? And what are their ideas of a good school and good teachers? The five guiding questions can be seen in Appendix E.

The addresses and contact numbers of the selected children's parents were provided by schools. On a 'first come first serve' basis, the commencement of contact began on the receipt of the first list. In the case where schools had sent in lists of parents at the same time, the researcher would prioritise contact by location to make easier the coverage of interviews in the same area, to alleviate travel and costs.

There was much contact with parents to request interview times but this proved very difficult as it was approaching the end of the school year and families had already planned to go away for the holiday period. In some cases, parents who had made appointments were not at home when the researcher arrived. Alternative times were made for the interviews and in some instances parents could not keep the new appointment times citing unexpected family commitments. In other cases, while the majority of the interviews were conducted in the parents' homes, there were some instances where interviews were conducted in other places requested by the parents other than the home (e.g., McDonalds). In the end, 28 parents agreed to be interviewed. The interviews were carried out from 2nd to the 22nd December covering the South, West and Central Auckland areas (see Section 2.2.3 for a full demographic description of the parents interviewed).

The medium used for the talanoa was Samoan for Samoan parents and English for all other ethnicities. There was one case of an 80 year old Tongan grandmother who was interviewed in Tongan by a research colleague. The grandmother looks after all her grandchildren.

Teacher surveys

Leadership survey

Leadership surveys were adapted from Heck (2000) for the Best Evidence Synthesis in leadership (Robinson, Lloyd & Hohepa, 2007). These were used to gain an understanding of school conditions and leaders' contribution to that environment. A sample of the survey for primary and secondary is in Appendices F and G. There were 60 items measuring six dimensions with 10 items per dimension. The six dimensions were instructional leadership (e.g., the school leaders make achievement a top goal), school-wide academic emphasis (e.g., teachers use class time for instruction, not busywork), high expectations of students (e.g., teacher beliefs about students), frequent monitoring of student progress (e.g., teachers use of formative assessment), positive school climate (e.g., safe environment) and positive home-school relations (e.g., regular communication with parents). The survey measured the extent to which school leaders implemented practices in each of the six dimensions. The questions were adapted to have a particular focus on Pasifika students, for example, "The Principal makes student achievement one of the school's top goals" became "The Principal makes Pasifika student achievement one of the school's top goals". All items were measured on Likert-type scales (1 = never to 5 = always). The scale has high reliability of 0.73 to 0.94 (Cronbach's alpha coefficients) (Heck, 2000). Although this is essentially a self-report measure, because it is completed

by teachers and school leaders, we can triangulate these data against school leaders' self-reports on their own leadership and the school's general environment of raising achievement.

Pedagogical Content Knowledge survey (PCK)

The pedagogical content knowledge survey was designed to examine the level of pedagogical content knowledge of teachers in reading and map those onto achievement gains to test the relationship between pedagogical content knowledge and improvements in achievement. It was developed to focus on the aspects of reading lessons that closely linked to comprehension. Due to the scope of the project, two surveys were developed; one for primary and one for secondary. Each survey contained relevant scenarios for the level of instruction.

The primary survey consisted of two Sections (Appendix H). Section One involved a scenario on a guided reading lesson with Years 5 - 6 students. Teachers were asked to read the scenario and identify up to three effective moves (Question 1a - c), and list up to three things they would have done differently and explain why (Question 2a - c).

In Section Two, teachers were provided STAR subtest results for students in one class. This consisted of Subtest 1 to Subtest 4 raw scores and totals (taken from the STAR manual). The class mean, New Zealand mean, range, typical range and critical scores were identified under each subtest. Teachers were asked to explain what the Subtest 3: Paragraph Comprehension results meant (Question 1) and point out other information from the results (Question 2). They were also asked to suggest further information that a teacher could use in making decisions about comprehension (Question 3) and suggest what to do with the results (Question 4).

The Secondary survey consisted of three Sections (Appendix I). Section One involved a scenario on a reading lesson with Year 10 students. Teachers were asked to read the scenario and identify two effective teaching actions (Question 1 - 2), and two less effective actions (Question 3 - 4). They were also asked to describe one additional action the teacher could take at a particular point in the lesson (Question 5).

In Section Two, teachers were asked to provide two teaching approaches that would help students improve gaps in their asTTle results for the subtests 'finding information' (Question 1a - b) and 'inference' (Question 2a - b). In Section Three, teachers were asked to describe teaching approaches that could be used to support Year 11 students in successfully completing a challenging writing task.

Students' language

To collect information about students' language a student survey was created (see Appendix J). The survey asked six questions about language, ethnicity and birth place. At primary schools Years 4 - 8 students were asked to complete the surveys, while at secondary the Years 9 and 10 students were asked to complete the surveys. Cluster 2 schools made this part of the end of year asTTle test, thereby ensuring a high return rate. However, not all schools in the cluster completed the survey in this way. Cluster 1 schools were sent copies of the surveys to distribute to the classroom teachers, and the Literacy Leader collated these for return to the Woolf Fisher Research Centre.

Classroom observations

Development and trialling

An observation tool was developed for use in the Pasifika project. The aim was to observe teaching in the schools to contribute to our understanding of the patterns and properties of effective teaching with Pasifika students. The specifications for the tool were to draw on these dimensions and holistic accounts, while being

flexible and easy to use. A particular need was that it be able to be used across the age range of Years 1 - 10 and across curriculum areas (literacy and numeracy). It needed to be able to be easily deployed by different observers and potentially able to be used as a resource tool in schools.

Framework

The tool draws on ten dimensions of instruction systematically identified in research integrations, syntheses and meta-analyses relating to effective instruction and teaching:

1. Academic engaged time: A major determinant of the extent of learning and transfer in the classroom across domains (literacy, numeracy etc.) is the amount of actual time engaged in the subject matter and practice effects. More effective teachers promote and maintain extensive practice (Bransford, Brown & Cocking, 2000; Darling-Hammond & Bransford, 2005).

2. Strategy instruction: Across domains (literacy, numeracy etc.) the developmental significance of strategies and the critical role of strategies in effective learning of academic skills/complex thinking are recognised. Domain-specific strategy instruction has become a well researched component of effective instructional practice (Bransford et al., 2000; Darling-Hammond & Bransford, 2005; Seidel & Shavelson, 2007).

3. Core knowledge: Across domains it is recognised that students need to develop an extensive and articulated base of knowledge appropriate to that domain. Domain-specific content knowledge is critical to effective learning (Bransford et al., 2000; Darling-Hammond & Bransford, 2005; Seidel & Shavelson).

4. Vocabulary instruction: It is very significant that students acquire domain-specific vocabulary and understand the way lexical items are used and language more generally encodes a field. In general, the more vocabulary (of particular sorts) a student has, the more vocabulary they are able to learn and the more they are able to cope with and learn from complex academic tasks (e.g., in literacy and numeracy). (Hiebert & Kamil, 2005; Baumann & Kame'enui, 2004).

5. High level talk: Classroom discourse studies and language studies show the significance of elaborated or extended or non-immediate talk to student learning and to students' developing more elaborated knowledge and awareness. (Cazden, 2001).

6. Feedback: Feedback in general, but in contemporary analyses, domain-specific feedback, are known to be very significant components of effective instruction. (Hattie & Timperley, 2007; Seidel & Shavelson, 2007).

7. Student awareness: The role of awareness conceived in terms of both control and reflection is a feature of newer models of complex cognitive development and student learning and figures significantly in the planning for strategy instruction (Bransford et al., 2000; Darling-Hammond & Bransford, 2005; McNaughton, 2002).

8. Differentiated instruction: The need to be able to tailor instruction to current levels of expertise is a fundamental principle in effective instruction. Just how this differentiation happens and how side effects of Matthew effects are avoided is still a research issue (Alton-Lee, 2003; Cazden, 2001; McNaughton, 2002).

9. Cultural responsiveness. The dimension of differentiation is allied to a second dimension, responsiveness based on the cultural and linguistic resources of students. Matthew effects are especially significant in the context of cultural and linguistically diverse students. But the recent research in New Zealand and elsewhere indicates the responsiveness specifically with culturally and linguistically diverse students who find schools risky places, is especially significant and has both academic properties as well as affective properties (Bishop et al., 2003; McNaughton, 2002).

10. Expectations: The role of expectations is contentious and needs to be carefully operationalised. But teacher expectations when actualised in terms of task levels and the forms of differentiated instruction clearly can create constraints for some learners, and both individually and in terms of collective 'self efficacy' come to influence the commitment and effectiveness of teachers especially with culturally and linguistically diverse students (Alton-Lee, 2003; McNaughton, 2002).

In addition, there is a need to have a more holistic description of classrooms in terms of resources, management and planning. Classroom effectiveness also includes aspects of the ambient environment (the resources and artifacts on walls are available to students within the classroom) as well as aspects of management and structure which partly determine 'engaged time' (Bransford et al., 2000). Previous research has also attempted to capture these aspects (e.g., Lai, McNaughton, Amituanai-Toloa et al., 2009; Parr et al., 2006).

The dimensions and descriptions were built into a draft tool which in its final form had three Sections. The tool went through several iterations in classroom trials and members of the research team responded to drafts.

The tool used for these three Sections (and some other context data) is fully described with an example of the Observation sheet in Appendix K. The first section, 'classroom features', required ratings of the classroom resources and environment and structure. The second Section contained a time sampling of teacher instructional dimensions across a combined set of 5 dimensions. Judgements about the dimensions were made over three minutes and coded into three levels indicating the quality of the dimension as apparent in the three minutes (low, medium and high). There are two cycles across each lesson which is assumed to be at least 30 minutes in duration. The third Section contained more holistic judgements of cultural responsiveness using two dimensions: the use of students' resources and the relationships (and expectations) between teachers and students.

In each Section the observers rate the feature or dimension on a three point scale from 'Low' (1) to 'High' (3). The tool was designed to be used across three consecutive lessons to increase the sampling of the features, dimensions and attributes across variations in lessons and to capture more realistically the usual sequencing relating to topics and lesson plans in schools. The timing of the observations meant that lessons in secondary schools were more directly related to exam preparation than otherwise would have been the case. It should be noted that recent large scale studies which have used classroom observations (Croninger & Valli, 2009) and teacher log books (Rowan & Correnti, 2009) report the overwhelming variation in teachers' instruction within the same teacher over lessons rather than between teachers. Indeed, the authors of these studies recommend observing at least 6-8 lessons per teacher (Croninger & Valli, 2009) or collecting at least 20 logs over a year (Rowan & Correnti, 2009) to gain enough samples to differentiate well between teachers. Interestingly, these studies also find that the variation between teachers and for one teacher over time is reduced with effective School Improvement programmes. What this means is that the observations reported in following chapters should be taken as indicative of the effectiveness of schools as much as or even more so than that of individual teachers.

Piloting took place in simulated observations using video records in the week of 4th August 2008 and in classroom observations on the 11th August 2008. Revisions were made to the tool following this piloting.

Coding

The full details of the coding are provided in Appendix L. The coding is summarised here.

Section one – Four classroom features (each rated High, Medium or Low):

1. Richness – high richness: (Many artifacts 10+ diagrams/pictures/charts; 3+ examples of relevant student work/assessments; artifacts represent quality performance and are varied).

2. Organisation – high structure: Clear instructions or understanding of instructions which students follow with little confusion/good routines (litmus test is independent activities – do students know what they are meant to be doing and are they engaged).

3. Differentiation – high differentiation: Texts and tasks are well matched with known student levels.

4. Expectations – highly appropriate expectations: Teacher talk expresses high expectations and beliefs about student capability appropriate to the tasks and texts for known student levels.

Section Two - Five instructional dimensions (each rated High, Medium or Low):

1. High level talk: Appropriate to domain. Talk between teachers and students which elaborates on and extends ideas and in the process, therefore, contributes to developing elaborated understanding. High focus must be topic related and involve contingent elaborations by teacher with high student engagement.

2. Core knowledge focus: Appropriate for the domain AND level (e.g., in beginning reading-CAP, letters, phonological knowledge; in reading comprehension content for reading or basic ideas such as 'main ideas'; in writing. High focus can occur where there is little interaction but practice with, immersion in core content area occurs (e.g., use of appropriate text selected for: being read to / seeing a video; or demonstration of solving or preparing a writing piece for publishing) with high student engagement.

3. Strategy focus: Appropriate for the domain AND level, will have a critical emphasis on non-formulaic use: either in the task/text or related to the task/text. Instruction involves prompting/guiding/commenting on in a meaningful task. High focus can occur where there are few or no explicit references to strategies but these occur by students, and teacher guides/comments/accepts with high student engagement.

4. Vocabulary focus: Can be explicit through elaboration of meaning/discussion in context/reference to dictionary. Can be subject/technical vocabulary that refers to the subject matter (such as main points or prediction in reading comprehension or algorithm or probability in mathematics) AND/OR low frequency/unfamiliar vocabulary. High Focus can occur with little explicit instruction - embedded or incidental definition or elaborations occur or where repeated use of new/complex words in interactions with high student engagement.

5. Feedback focus: Feedback occurs which is more than affirmation, can contain information including what to do next/feed-forward. High focus can occur with acceptance (i.e. no overt statement) where

it is apparent that the acceptance is informative in the context of high engagement and awareness by learner(s) with high student engagement.

Section Three – Two attributes of cultural responsiveness (each coded High, Medium or Low):

1. Incorporation: Use of individual students' cultural and linguistic resources including background and event knowledge as well as language uses and patterns of learning and teaching. High incorporation: Students' personal backgrounds are recognised either explicitly or implicitly and used to better connect with students. Different cultural frames/event knowledge may be used by different teachers including previous shared texts (films, books, problems, joint experience).

2. Positive relationships: Respectful and reciprocal, clear appreciation of backgrounds and cultural identity, emotional well being a concern and high positive expectations. Highly positive: climate of high respect, reciprocity (learning from or enjoying student contributions), clear appreciation of backgrounds and cultural identity, emotional well being a concern and high positive expectations. These may be marked by humour.

Training

An all day training took place on 12th August 2008 using video examples, transcripts, and simulations. Training continued with examples until an acceptable level of agreement on the coding was gained and protocols were learned. Further follow-up training occurred. For one observer in situ training with an experienced observer augmented training.

Reliability

Six out of 34 individual lessons (18%) were checked for inter observer agreement. Two observers observed the same lesson. Three forms of agreement were calculated.

Overall (total) agreement (Observer 1 total divided by Observer 2 total) was 98.4%. This is a very high level of agreement and means that in terms of type summary scores for the teachers there can be much confidence in the instrument. Exact agreement which is based on each score (Agreements divided by Agreements plus Disagreements) was 60.8%. The latter is a very stringent measure and given the probability of agreeing on 16 scores across six separate tests, this is an adequate if lower level. It means that on any one item the agreement on precise level is not perfect. But because there is conceptually and empirically some overlap between items (for example judgements of high level talk and vocabulary focus are positively correlated) the finding that overall scores were very similar also means that despite small variations in specific levels, overall the instrument provides usable information on the combination of dimensions.

2.4 Data Analysis

We examined the effectiveness of Schooling Improvement interventions and initiatives by looking at those that make positive and statistically significant impact on the overall academic achievement of the Pasifika students. The comparative achievement data generated from quantitative research was used to find out whether efforts have been successful or not. Qualitative examination was utilised to further explain the outcomes and to develop theories about what practices are successful in raising Pasifika students' achievement.

2.4.1 Quantitative analytic techniques

Examining the quality of the evidence

We first examined the quality of the achievement information in the data analysis reports by:

1. analysing the accuracy of the analysis reports
    - we re-analysed a sample of the raw data to see if we could obtain the same results as the cluster
    - we checked the 'cleanliness' of the raw data
    - we checked the conclusions drawn from the reports against the analysis of the data in the reports.
2. asking clusters to provide us with a copy of their cluster plans to understand the rationale for the analyses
3. asking clusters to reflect on the quality of their data

Clusters were asked to report on their moderation and checking processes.

Where possible, if we were aware of any research reports written for publication, we included that information as another way of examining the quality of the evidence about student achievement.

If the verified data were not presented in a way that was required for this research project, for example not broken down by ethnicity, we conducted simple analyses such as *t* tests on the data. Given the project financial constraints, only minimal reanalysis could be conducted to show overall trends.

Problem-Based Methodology (Robinson & Lai, 2006) was used to understand the reasons and conditions for the shape of the cluster databases, data reports and data processes. This would support the research team to understand why we received the data and reports in the form that we did. Feedback from the research project advisory group and from the clusters was used to inform the constraint set.

Student achievement data analysis

Literacy measures in English

In Phases Two and Three a similar process was used to analyse students' reading achievement. For all analyses, only Pasifika students were included unless otherwise stated. Where possible the data were analysed in terms of patterns of achievement, using repeated measures and gain scores, as well as normalised/standardised score shifts. SPSS and Excel programmes were used to create a database where data from all testing periods could be recorded and analysed. For Cluster A and Case Studies 1 to 4, a sample was created using all Pasifika students present at Pre-test 2007. Most analyses were done using a longitudinal cohort, that is all Pasifika students present at all time points throughout the course of the project. For primary this is Pre-test 2007, Post-test 2007, Pre-test 2008, and Post-test 2008. The secondary school longitudinal cohorts only have data at Pre-test 2007, Post-test 2007, and Post-test 2008, as no testing was completed at the beginning of 2008 for Year 10 students. In some cases a 2008 longitudinal cohort was used to further augment the findings. We further examined scores using various demographic breakdowns, for example specific Pasifika ethnicity, gender, ethnicity by gender, etc.

For STAR test, raw scores are able to be corrected for age through transformation into stanine scores (Elley, 2001). Hence all our analyses use the STAR stanine score to allow comparisons across year levels and time.

AsTTle results were first analysed in terms of the magnitude of changes from the beginning to the end of the time period. For asTTle reading we analysed students' achievement in relation to the national normative data, including average scores and average bands of scores. In some analyses the raw scores were also transformed into curriculum levels, the distribution of which could be compared to national expectations. In this way we had an indicator of the impact of the Schooling Improvement interventions, against national distributions at similar times of the school year.

Initial analyses used standard descriptive and inferential statistics such as *t* tests. For more detailed analyses of gains by subgroups we have used repeated measures ANOVAs with separate univariate analyses, where statistical assumptions were met. An additional analysis using multivariate analysis and mixed effect modelling was carried out for Cluster A using R software (Data modelling below).

A further step was introduced to determine the educational significance of the interventions. This was based on an assessment of the effect size (ES) of the educational intervention. Effect size is a name given to a family of indices that measure the magnitude of a treatment effect. Hattie (2009) describes a 1.0 effect size as an increase of one standard deviation, which usually represents advancing student achievement by about one year. To measure the magnitude of a condition by effect size in this study, Cohen's D (Cohen, 1988) and partial eta squares were employed, wherever appropriate.

Data modelling

Achievement data modelled

Based on the longitudinal sample of 715 Cluster A students who were in Years 4 - 8 at the beginning of 2007, two overlapping datasets, 'entire' and 'complete', were used to develop achievement models. The 'entire' dataset contained all students in the longitudinal sample, meaning that students had data for all four tests at the beginning and end of both 2007 and 2008. This dataset contained results from all four STAR tests, along with language data and data on students' country of origin collected from the student survey, albeit some students had no language or country of origin data (see Section 2.2.2 for detailed demographic description). The available student survey data included language information (first language spoken, language spoken at home), country of birth and time lived in New Zealand.

The 'complete' dataset contained a subset of 380 students from the 'entire' dataset. In this dataset, students who had no language data were deleted, leaving only students with complete or partially complete language records. Table 8 summarises the frequencies and percentages of student cohorts for both datasets and Table 9 summarises the same information for student ethnicity details. There were more female students (55.3%) than male students (44.7%) in the 'complete' dataset, this is similar to the gender ratio of the 'entire' dataset (53% female vs. 47% male). It should be noted that the 'complete' dataset consisted of data from students who had answered the student survey, and thus the modelling results presented in this report may contain self-selection bias from the students even though the research team surveyed all students of the schools of Cluster A that participated.

Table 8: Frequency (Percentage) of Cohort Students in the Datasets for Modelling

Dataset	Cohort 1 (Years 4-5)		Cohort 2 (Years 5-6)		Cohort 3 (Years 6-7)		Cohort 4 (Years 7-8)		Cohort 5 (Years 8-9)		Total
Entire	147	(20.6%)	146	(20.4%)	102	(14.3%)	254	(35.5%)	66	(9.2%)	715
Complete	93	(24.5%)	78	(20.5%)	65	(17.1%)	125	(32.9%)	19	(5.0%)	380

Table 9: Frequency (Percentage) of Student Ethnicity in the Datasets for Modelling

Dataset	Samoan		Tongan		Cook Island Māori		Other Pasifika Group		Total
Entire	333	(46.57%)	193	(26.99%)	124	(17.34%)	65	(9.09%)	715
Complete	191	(50.26%)	91	(23.95%)	67	(17.63%)	31	(8.16%)	380

Modelling

The modelling of student achievement data served two purposes. The first was to statistically model and predict the amount of typical growth in achievement over the two-year period for Pasifika students, while at the same time using the student information, including the student survey data described in Section 2.3.2, to provide some understanding of student achievement differences over time. The combination of student survey data with student achievement data enable us to investigate whether first language, home language, and demographic information such as country of birth and/or time student lived in New Zealand were predictors for the 'gap differences' in stanine results (i.e., gain or loss between any two consecutive tests) over the period of 2007 and 2008. The other purpose was to quantify how much the six schools varied in their mean reading achievement stanine over the four tests. This may subsequently answer the question of whether the strength of association between reading achievement and measurable student information, such as ethnicity, gender, students' language usage and time spent in New Zealand, was similar across schools. As a result, two different types of models were developed in response to the two purposes. The first purpose resulted in two models that used the 'gap differences' (i.e., gain or loss) in stanine results between any two consecutive tests as the modelled response (i.e., 'gap difference' models). The second purpose resulted in two models that used mean student achievement averaged over the four tests as the modelled response (i.e., 'level difference' models).

Given the context of the research project and the usual educational data structure, the intended analytic technique was to apply hierarchical linear modelling (HLM) to account for the 'student within school' nested data structure for both models. The data, however, were highly imbalanced with respect to cohort and school. For example, one school had students for only Year 4 - 5 (n = 23) and Year 5 - 6 (n = 16) cohorts while another school only had students for Year 7 - 8 cohort (n = 61). Compounded by the restriction of the statistical software in modelling the complexities of the test-to-test correlation in repeated measures, multivariate modelling was applied to the initial modelling for the 'gap differences' with schools taken to be a fixed explanatory factor. Later, HLM was used for the two 'level difference' models where the mean student achievement averaged over the four tests was the modelled response (a single response). School was treated as a fixed effect and then a random effect in the two 'level difference' models.

Modelling was conducted using R (the statistical software). The applied technique included multivariate analyses for the 'gap difference' models, and hierarchical (mixed effect) modelling (through the lme4 package for R), and Monte Carlo simulation for the 'level difference' models. Model selections were based on Pillai's trace (and its approximately F-distributed transform) being used as test statistics for the multivariate models. For HLM, likelihood ratio tests were used.

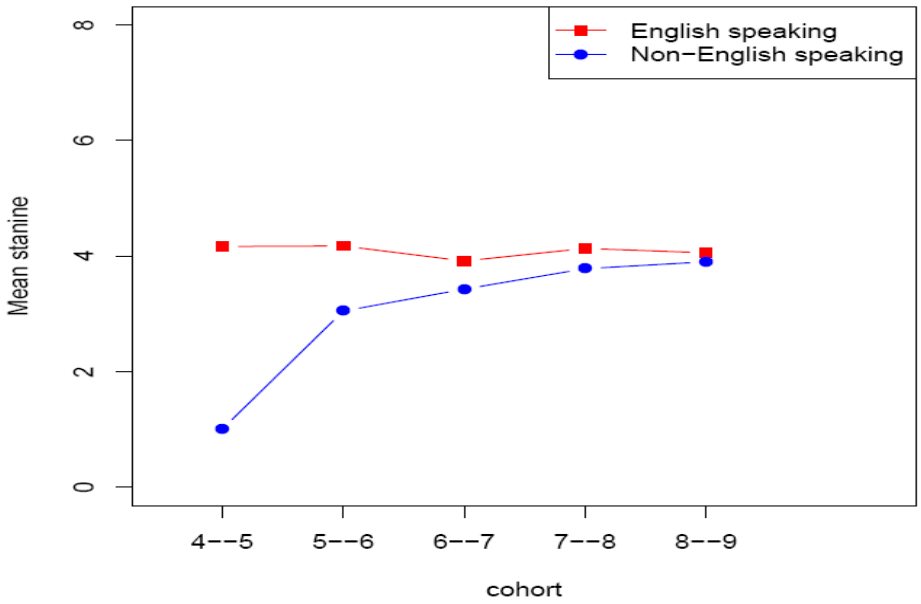
The development of models included several stages and was essentially the same for both the 'gap difference' and the 'level difference' models, with variations in the modelling technique due to software restrictions and data complexities as stated. The multivariate modelling process for the 'gap difference' model started with the use of the 'entire' dataset as the basis for preliminary analysis. The next stage involved building the 'gap difference' model on a subset of the 'complete' dataset referred to as the 'genuinely complete cases' dataset. This dataset contained those that had complete information for **all**

predictors of interest, including the data collected from the student survey. This reduced the sample size from 380 to 369 and allowed all fitted models to be comparable. The final two 'gap difference' models were then compared.

The 'level difference' model, on the other hand, was developed solely on the 'genuinely complete cases' dataset to allow the use of variables such as the language student used at home or their first language, and time lived in New Zealand. The effect of school was investigated through first fitting school information as a fixed effect, then as a random effect in the HLM setting. Student cohort was then added as a predictor to the 'level difference' model, and as the data were egregiously unbalanced with respect to school and cohort, school was ignored as a predictor in this extension of the 'level difference' model. This extension of the 'level difference' model was motivated by analyses of other datasets in the past which suggested that for students whose first language was English, the overall mean STAR stanine remained relatively constant as year level increased. Past analyses also indicated that students whose first language was not English would lag behind initially, but as year level increased, would close the gap substantially. This suggested pattern of achievement is illustrated in Figure 1. Please note that the graph is only hypothetical. The graph illustrates a possible pattern where the non-English speaking students catch up with primarily English speaking students at higher year levels. In our analyses, we "expected" the "pattern" not the actual "stanine level".

The mathematical notation for the two 'gap difference' models and the two 'level difference' models can be found in Appendix M.

***Figure 1*: Illustration of expected 'catch-up' pattern for non-English speaking students.**



2.4.2 Analysis of the qualitative data

Learning community and their beliefs

All interviews conducted were transcribed and then coded. The coding of interview by participant type is outlined below. The codes used allowed the researchers to develop themes across the interviews and relate this to theories of effective practice. It was important to gather the voices of all people within the school community to provide a holistic picture of the environment. While not all interviews could be reported here,

we have selected statements that reflect the ideas and beliefs of the various participants in the education community.

Leadership interviews

The interviews with the Principals and Literacy Leaders were analysed under six main themes associated with the interview questions:

1. Schooling Improvement initiatives
2. effectiveness of initiatives
3. policies for improving Pasifika student achievement
4. services for Pasifika students struggling academically
5. support provided for teachers and Literacy Leaders
6. role of parents and community.

Teacher interviews

Discussions and interviews with teachers, while not reported in detail in this research report, were used to further understand the practices and pedagogy that occurred in the classrooms. The probing of teachers about understandings and beliefs in relation to their practice and why they do what they do enabled a deeper understanding of the lessons observed. It also added weight to the voices of the Principal, Literacy Leader, students and parents.

Student interviews

Eight themes were used to analyse the student interviews. These were based on the questions asked and to enable links to be made to what other participants expressed about the school environment. The eight themes were:

1. big dream
2. thoughts about school
3. other students
4. teacher
5. teaching
6. preferred language in school
7. homework
8. changes to school.

Talanoa (parent interviews)

As the majority of parents were Samoan, it was appropriate that talanoa sessions for Samoan parents be conducted in Samoan. However, to transcribe and translate the Samoan transcripts into English was time consuming and, when translated, these do not capture the full essence of what parents said.

To examine parent ideas about schools, teachers and education in general, the parent interviews were coded into six main areas:

1. aspirations for their children
2. what schools can do to enhance achievement
3. home school partnership
4. support of their children
5. support for teachers
6. parent expectations.

These areas were predicted to provide schools and the Ministry of Education Schooling Improvement division with the ideas parents have and the intentions behind why they do what they do.

Teacher surveys

Leadership surveys

The mean score for each dimension of the leadership survey was used to ascertain the degree to which staff perceived that school leaders implemented the practices associated with each dimension. The total score was then aggregated across the six dimensions to form a composite score. This was done for each school, across the two Focus Clusters as a whole, and finally across all schools involved in the project. The means allowed us to compare across schools and clusters to form a picture of the leadership responsiveness in schools.

The analysis of the leadership survey revealed no consistent patterns, either across clusters or across schools. Ratings were moderate to high across all sections. We do not report further details in any of the results sections but have summarised the results in Section 4.

Pedagogical Content Knowledge Surveys (PCK)

For the analysis of the Pedagogical Content Knowledge survey, coding categories were reviewed and a marking guide developed, in the first instance by two researchers (Stuart McNaughton and Althea Leonard). All questions received a rating from 0 to 3. A score of 0 meant the response was clearly incorrect (e.g., response wrongly identified an effective or ineffective strategy) or irrelevant to the question. If responses were accurate, they were rated from 1 to 3 based on the increasing depth of rationale provided. The marking guide with examples of answers for each rating is in Appendices N and O.

To analyse these surveys, two coders then rated 5 surveys from primary and 5 surveys from secondary to test the coding and moderate the levels. One researcher then proceeded to code all the surveys.

The analysis of the PCK survey revealed no consistent patterns, either across clusters or across schools. Ratings were moderate to high across all sections. We do not report further details in any of the results sections but have summarised the results in Section 5.

Achievement by students' language

To analyse the language data collected from the student surveys, codes were assigned to the various questions and answers. The answers that were given to the survey varied in number and it was unrealistic to use them all. For example, more than 28 different languages (including combinations e.g., Samoan and English) were reported. As the research question focuses on Pasifika students this became one of the

categories for analysis. In this group we have included Samoan, Tongan, Tokelauan, Fijian, Niuean, Cook Island Māori and other Pasifika Island nations that were listed, e.g., Tuvaluan. For questions two 'What is the first language that you learned?', and three 'What language do you speak most at home?' we used four categories: English only, Pasifika language only, Pasifika and English, Other. In question four, 'Which country were you born in?' we used Pasifika country, New Zealand and Other. Question five 'If you were not born in New Zealand, how long have you been in New Zealand?' has the categories less than one year, one to five years, more than five years, born in New Zealand (for which we used the answer from question four to determine). Question six 'Which country or countries were your parents born in?' uses 'Pasifika country', 'New Zealand', 'Pasifika country and New Zealand', i.e., one parent born in each, and 'Other'. Whilst we have simplified the categories for these analyses, the database has the ability to be used in the future to analyse, for example, Tongan boys' achievement.

Each of these five questions was coded and the groups were used to run means of STAR stanines or asTTle reading scores. For the purpose of these analyses, only Pasifika students were included to determine what impact language had on these students. Analyses were conducted on pre-post students, students present at all testing times. These two conditions reduced the sample size considerably making it difficult to analyse by further sub-categories.

Classroom observations

To analyse the classroom observations a database was created combining all of the teachers' survey scores. Because teachers did not receive a score for every dimension, for example, when lessons were too short for the two lesson phases, they were given a percentage out of the total possible score they could receive. Where two researchers had observed the same lesson a reliability test was performed (see Reliability in Section 2.3.2 Qualitative measures).

The teachers' classroom observation was matched to their class achievement means and the school achievement mean for Pasifika only students.

3. Results

3.1 Phase One - Cluster Reports

This section of the report addresses the research question, "What is the achievement of Pasifika students in Schooling Improvement initiatives in New Zealand?" The most comprehensive answer to this question would involve collating student achievement data (at individual student level) from each cluster, creating a database across clusters and analysing the data from that database using a standardised format to enable comparisons across clusters. Financial constraints of this research project only allowed this method of collation and analysis for one of the nine clusters in this study. In that cluster, we collected the raw achievement data from individual students, created cluster databases and used those to analyse the data using a standard format. This cluster's data (Cluster A) is reported in Section 3.2.

Given that we could not collate the data at individual student level in the other clusters, the research team collated cluster reports containing analyses of achievement data. Nine clusters provided us with information (coded as Cluster A to Cluster I). The clusters ranged from 5 schools to 30 schools, and covered a range of deciles in some clusters (e.g., one cluster consisted of schools from decile 1 to 10). We examined the quality of the evidence of student achievement from each cluster by checking the accuracy of the analyses including checks on a sample of the raw data against the information contained in the reports. Clusters were also asked to report on any standardisation of the test at cluster and school levels, and to report on any cluster or school-wide mechanisms for checking the accuracy of the data. Given the amount of data collected by clusters, we limited the reports to literacy, and in secondary school to Years 9 and 10. This analysis yielded rich data about the analyses and databases in the clusters and we have provided an additional analysis of the state of the evidence about student achievement. A full description of the participants and methodology is contained in the Method section (Section 2).

The results are presented in three main sections. The first section presents the results from the verification of the data reports including the reasons for the current data reports and any changes that have resulted from the feedback with clusters; the second section presents achievement data from clusters with stronger evidence of achievement; and the final section presents achievement data from clusters with weaker evidence that the research team could reanalyse to provide some indication (albeit tentative) of Pasifika achievement. The latter results need to be interpreted with caution.

3.1.1 Verification of the data reports

We first examined the quality of the achievement information in the data analysis reports by analysing the accuracy of the analysis reports. We requested that clusters provide us with a copy of their cluster plans to understand the rationale for the analyses and we further asked clusters to reflect on the quality of their data (Section 2.1.3 and 2.4.1).

Checks of the quality of the achievement information revealed that three of the nine clusters showed stronger evidence of student achievement. By this we mean:

1. the data reports contained accurate and appropriate analyses, and the conclusions drawn (if any) were appropriate

2. the databases which data reports were drawn from were 'clean' (e.g., no columns in the wrong place; data primarily correctly entered)

3. there was some form of cluster and/or school-wide standardisation and moderation of the results.

Some minor errors were found, but these did not change the overall patterns of results. The results are described in Section 3.1.2.

Two of the three clusters had previous research publications on the results of their data which were externally reviewed in both international and local publications (Lai & McNaughton, 2008; Lai, McNaughton, Amituanai-Toloa et al., 2009; Lai, McNaughton, Timperley et al., 2009; McNaughton & Lai, 2009; McNaughton, Lai, MacDonald, & Farry, 2004). The research publications contained higher-level analyses such as Hierarchical Linear Modelling (HLM) and included rigorous research designs that were more than just pre-post designs, such as quasi-experimental designs with comparison groups. Note that pre-post designs (e.g., where improvements are reported by examining the same students at different time points) are often associated with higher gains in achievement due to their less rigorous research design (Borman, 2005). More rigorous research designs are quasi- or full-experimental designs.

The other six clusters showed evidence of Pasifika student achievement, but the quality of the evidence was not as strong as the aforementioned three clusters. These six clusters experienced some issues with at least two of the three criteria we used to verify the data (accurate and appropriate analyses, 'clean' databases, cluster and/or school-wide standardisation and moderation of the results).

For ethical purposes, and to protect the anonymity of the clusters, we have not provided the detailed issues for each cluster here – each cluster has received feedback on its specific issues and that information will be used formatively. Table 10 provides a summary of the common issues across the six clusters. It is noted that almost all clusters provided very little information about Pasifika students (one to two figures and tables) per report.

Table 10: ***Database and data analysis issues***

Issue	Examples
1. Incomplete and inconsistent demographic information in the databases	Ethnicity information was collected for only 58.33% of the students, making the data on Pasifika less likely to be representative of the cluster Ethnicity data was collected inconsistently between schools (e.g., two schools did not submit any ethnicity information at all; whilst other schools provided some ethnicity information for lower levels of the schools only) Gender of the students was not recorded Year levels were not recorded Time of tests was not recorded
2. Inconsistent collection of achievement information	Schools in the cluster chose to test at different time points, yet the data were analysed as though the difference in testing times did not matter (e.g., some schools in the cluster tested at the end of the year whilst the rest tested at the beginning of the year. Some schools' data, therefore, would take into account any drops in achievement over summer, whilst others would not)
3. Incorrect analyses or conclusions	Conversion into stanine scores was incorrectly done for the whole cluster Incorrect conclusions about the data – the research team conducted our own calculation of the data from the data table provided and could not find evidence to support the report's conclusion Data tables were incorrect (e.g., we discovered that when reporting in bands, percentages were not correctly added)
4. Databases not well constructed	Labels and descriptions of variables were missing or incorrect Data in the databases did not correspond to the file names, thus providing misleading information about the content of the files (e.g., the file indicated that the data were only from schools with all three points of data, but some schools in that file did not have three points of data) Database provided was structured in a form whereby the research team could not reconstruct to even determine the number of students in the cluster Storage of data did not allow for longitudinal tracking Student names were not recorded consistently (e.g., without last names) making longitudinal tracking impossible
5. No 'official' cluster data	Data was collected from a non-representative sample of schools (e.g., high and low achieving classrooms) making the data less representative of the cluster Data provided from individual schools had differing formats and labels, making any cluster picture difficult for the research team to reconstruct (e.g., in one cluster the research team received 51 files with different file naming conventions)
6. No cluster or school-wide standardisation for administering the test or checking for accuracy	Self reports from cluster leaders indicated that their cluster did not carry out cluster and/or school-wide standardisation or moderation of the assessments
7. Appropriate statistical analyses not performed	Reporting of percentages without numbers (percentages on small samples are potentially misleading) No statistical testing of data, particularly those where claims about achievement gains are being made Missing standard deviations Mean scores not calculated, even though it would be appropriate to do so

Reasons for the data reports

The research team investigated why the cluster analysis reports and databases looked the way that they did. There were a set of inter-related reasons summarised in Figure 2.

***Figure 2*: Summary of inter-related reasons for the data issues.**

Reasons and conditions (constraints)

No standardised way of storing, checking the accuracy of and analysing data across clusters

No Ministry requirement for databases and analysis reports to be standardised across clusters

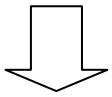
Some quality assurance on the analysis reports by Ministry (Wellington), but Ministry (Wellington) generally assumes achievement data are valid

No consistent system across clusters for quality assurance of the databases or data analysis reports at cluster or Ministry level

Either a lack of expertise from Ministry and clusters to check the accuracy of the data and databases and/or an issue of role clarity (unclear whose role it is to check the accuracy of the databases), and/or insufficient resources to access and check the quality of the data and databases within existing roles

Appropriate appointments of database managers and analysts (e.g., database management and analysis not added onto other roles)

Cluster targets are not standardised to focus on Pasifika student achievement



Consequences

Clusters collect, store and analyse their data as they see fit

Quality assurance is ad-hoc and dependent on personnel who may or may not have appropriate expertise

Data are not focused specifically on Pasifika students

Ministry and clusters generally accept all data from databases as valid and accurate

Discussions with senior Ministry officials and Ministry Schooling Improvement Coordinators indicate that currently there is no standardised way of storing, checking the accuracy of and analysing data across clusters. Nor is there any Ministry of Education requirement that databases or data reports be standardised across clusters. As such, clusters (or the cluster-appointed analysts) have the autonomy for deciding the shape of the cluster databases and the types of analyses that are conducted. This means that the clusters can choose which subgroups to focus on, if any, and not all clusters had specific goals for Pasifika students. The focus of some clusters appeared to be on all students who needed support regardless of ethnicity.

In addition, there is no consistent system across clusters for the quality assurance of the databases or the data analysis reports. Discussions with two senior Ministry officials indicated that the main quality assurance by

the Ministry in Wellington is whether the cluster plan and the cluster activities are based on the achievement data (e.g., cluster activity addresses students' need identified from achievement data). There is further quality assurance but this is usually focused on specific Ministry priorities, for example, checking that the clusters are tracked against the goals in Ka Hakitia or the Pacific Education Plan. The Ministry generally assumes that the data provided by the clusters is valid, and that the clusters along with local Ministry staff have developed ways of checking the data.

Quality assurance functions are left up to individual clusters and their associated Ministry staff. This is, therefore, highly dependent on the individuals whose responsibility it is to check the analyses and the databases, and it assumes that the individual responsible has the expertise to perform the appropriate quality assurance.

In the six clusters with weaker evidence of achievement for Pasifika students, it may be the case that the role of quality assurance was not clearly delineated. It could also be that there were insufficient resources (including time) allocated for this task and/or possibly a lack of expertise to check the quality of the data and the databases. There is some evidence to support these hypotheses. For example in the six clusters, the individuals responsible for data management and analysis were primarily employed to perform other functions. In one cluster, the individual was hired primarily as a Cluster Coordinator with a data management and analysis component subsequently added to their role. As such, this person may not have had the time or the expertise required to be a data manager and analyst in addition to their primary role as a Cluster Coordinator.

As a consequence, clusters collect, store and analyse their data as they see fit resulting in a proliferation of database types and a variety of analyses that are not standardised across clusters. In addition, in all clusters the focus of the analysis was not specific to Pasifika students. Quality assurance is ad-hoc and dependent on the personnel in charge of data management and analysis, and as such, there is variation in the quality of the databases and data reports. The Ministry and the clusters, however, appear to have accepted all data from databases as valid and accurate. There are some exceptions with three clusters reporting to us that they were aware of the issues with their databases and were in the process of rectifying these issues.

Individual feedback with cluster members responsible for database management and analysis and Ministry staff indicated that the researchers' analyses of the data reports and the reasons for the data reports reflected the current situation in the cluster. Suggested changes to the constraint set were additions rather than modifications to the original analysis, and these changes are reflected in the analysis presented in this section of the report.

The current state of databases and data analysis systems should not be surprising given the self-governing context, where the responsibilities for developing and creating databases and aggregated analyses are devolved to individual clusters/schools with little guidance from central government on how to do so. *In fact, the schools and clusters should be commended for their innovation and courage to develop cluster databases and aggregated analyses when they did not have to, and without extensive infrastructure support.* These schools and clusters have de-privatised their results and created collaborative communities that critique and support each other to raise achievement. It may also be that the local innovations have been far more fruitful in developing aggregated data for learning purposes than the top-down models like other countries, which have been often misinterpreted and used for irrelevant compliance or non-productive competition between schools.

Changes to cluster databases

This research project was not specifically set up to monitor changes to the databases or analyses after the feedback, or to work with clusters on how to address cluster issues - although informal support to clusters has been provided (e.g., an extra meeting with one cluster to discuss their database needs). All clusters have since made changes to their databases and analyses following this research. The following summarises some of the key changes across the clusters where known:

1. the cluster has standardised testing times to twice a year to allow for comparisons within and between years
2. recommended statistical testing (e.g., effect sizes) conducted and shared with principals in a meeting where a member of the research team was present
3. the cluster is writing explanations of variables so that new members can understand the databases
4. role of Database Manager and Analyst split from Cluster Coordinator role
5. errors in database are being corrected
6. ethnicity data is now being collected systematically in the cluster.

Further support through the Building Evaluative Capability in Schooling Improvement project should enable clusters to continue improving the quality of their databases.

3.1.2 Clusters with stronger evidence of achievement

Three of the nine clusters that provided achievement data exhibited stronger evidence of student achievement. In this section we summarise the cluster characteristics and results for two of these three clusters, namely Cluster D and E. The third cluster (Cluster A), which is also a Focus Cluster, is reported in Section 3.2.

Cluster D

Cluster D implemented the STAR test to examine its achievement in reading comprehension in Years 4 - 8. The target was for every student to reach the average of stanine 5, but there was no specific target for Pasifika students as the cluster consisted primarily of Pasifika students. The cluster engaged the services of the University of Auckland to support them in their analysis of the cluster and individual school data.

Two types of reports (in the form of PowerPoints) were produced each year. The first report assessed students' achievement over three time points across two consecutive school years (e.g., beginning and end of 2006 and beginning of 2007) which enabled the cluster to examine any drop in achievement over summer. The second report assessed students' achievement during an academic year (e.g., beginning and end of 2006) to examine the effects of the cluster intervention. There was also a published article in which higher levels of statistical analyses such as HLM were used to demonstrate growth in achievement in the cluster (McNaughton & Lai, 2009). In addition to the cluster analysis reports, the research team viewed the cluster database which tracked individual students over four years and the cluster plans for each year.

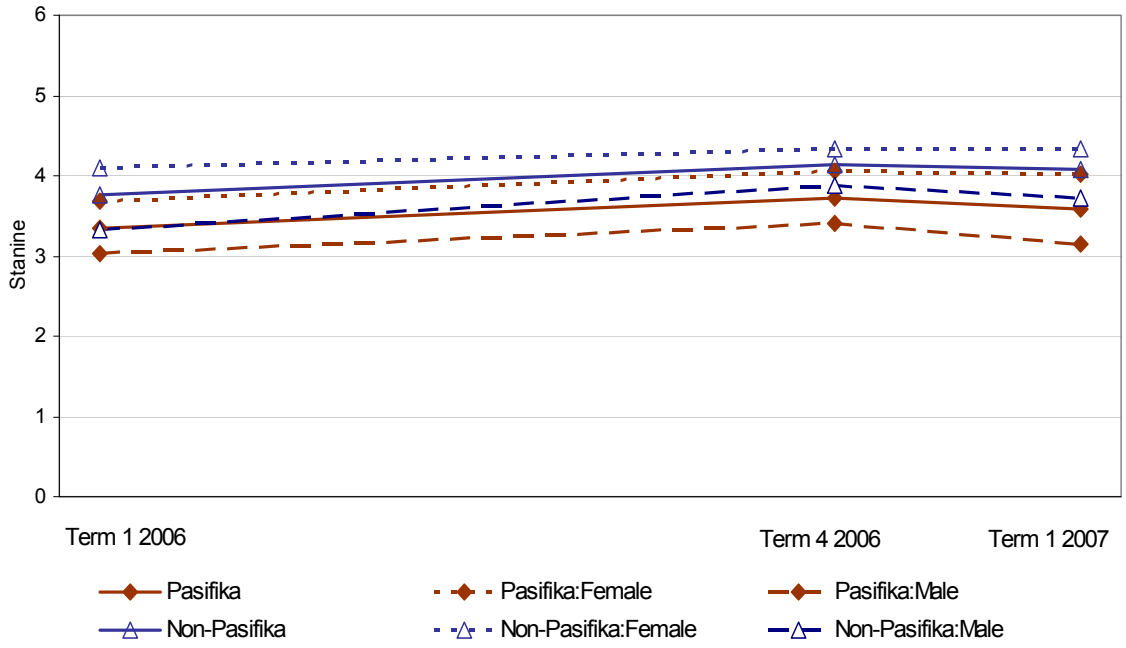
The cluster collected data at the individual student level in a way that allowed for cohorts of matched students to be tracked over time, and for the matched students to be compared to those that did not sit the test. There was no information, however, on why students missed a test (e.g., due to absence or leaving the school). The databases employed consistent ways of recording and storing the achievement information

every year and a list of variable names was available. The cluster's achievement reports were similar in format, with a demographic section followed by the analysis of the results.

The cluster reported both cluster-wide and school systems in standardising the administration of the STAR test. Data accuracy was checked both within each school and across the whole cluster. Data was then rechecked by the researchers and further checked at the time of publication. The publication provided external checks on the method and interpretation of analysis results.

Given that the cluster was not focused specifically on Pasifika students as a collective group, and to more clearly show the pattern of achievement for Pasifika students, the research team reanalysed the cluster's data. Results from the analysis were similar to those in the analysis reports. Results showed that Pasifika students had lower achievement levels than non-Pasifika students but Pasifika female students achieved similarly to the non-Pasifika students. This can be seen by the overlapping lines of Pasifika females and the non-Pasifika student average in Figure 3.

Figure 3: **Mean stanines by gender and ethnicity over three time points years (Cluster D).**



Overall, a gain of 0.37 stanine was made in 2006 (roughly equating to a four month acceleration in addition to nationally expected progress), and a drop of 0.12 stanine occurred over the summer (Table 11). Both Pasifika and non-Pasifika males and females improved significantly, although across the cluster, Pasifika females had consistently higher achievement levels than males (nearly one stanine difference in 2007). It is important to note that Pasifika female achievement was within the average bands of achievement at the end of 2006 and the beginning of 2007, whilst Pasifika males were on average still in the below average band.

Table 11: Mean Stanine, Standard Deviation and Number of Students by Ethnicity and Gender (Cluster D)

Ethnicity / Gender		Time 1 Term 1 2006	Time 2 Term 4 2006	Time 3 Term 1 2007	School Year (2006)			Summer (2006 - 2007)		
					t		ES	*t*		ES
Pasifika										
Male	*M*	3.03	3.41	3.16	-5.15	***	0.27	3.37	***	-0.17
	SD	1.42	1.43	1.51						
	n	152	152	152						
Female	*M*	3.68	4.06	4.03	-4.30	***	0.29	.423		0.00
	SD	1.38	1.25	1.47						
	n	145	145	145						
Average	*M*	3.35	3.73	3.58	-6.64	***	0.27	2.62	**	-0.10
	SD	1.44	1.38	1.55						
	n	297	297	297						
Non-Pasifika										
Male	*M*	3.33	3.88	3.73	-2.27	*	0.37	.85		-0.10
	SD	1.58	1.40	1.54						
	n	40	40	40						
Female	*M*	4.09	4.33	4.33	-1.75		0.16	.00		0.00
	SD	1.62	1.48	1.47						
	n	55	55	55						
Average	*M*	3.77	4.14	4.07	-2.86	**	0.24	0.62		-0.05
	SD	1.64	1.46	1.52						
	n	95	95	95						
Overall										
Male	*M*	3.09	3.51	3.28	-5.38	***	0.29	3.31	**	-0.16
	SD	1.45	1.43	1.53						
	n	192	192	192						
Female	*M*	3.80	4.14	4.11	-4.61	***	0.24	0.37		-0.02
	SD	1.46	1.32	1.47						
	n	200	200	200						
Average	*M*	3.45	3.83	3.70	-7.07	***	0.26	2.58	*	-0.08
	SD	1.50	1.41	1.56						
	n	392	392	392						

* $p < .05$, ** $p < .01$, *** $p < .001$.

The three main Pacific ethnic groups (i.e., Samoan, Tongan, and Cook Island Māori) made significant progress within the school year and only Samoan students exhibited a significant drop in achievement level over the summer holiday (Table 12).

Table 12: Mean Stanine, Standard Deviation and Number of Students by Main Pasifika Ethnicities (Cluster D)

Ethnicity		Time 1 Term 1 2006	Time 2 Term 4 2006	Time 3 Term 1 2007	School Year (2006)			Summer (2006 - 2007)		
					t		ES	*t*		ES
Samoan										
	M	3.37	3.78	3.61	5.12	***	0.29	-2.29	*	-0.11
	SD	1.43	1.42	1.55						
	n	161	161	161						
Tongan										
	M	3.23	3.63	3.33	2.65	*	0.31	-1.73		-0.24
	SD	1.34	1.22	1.34						
	n	43	43	43						
Cook Island Māori										
	M	3.23	3.65	3.49	4.30	***	0.29	-1.72		-0.11
	SD	1.48	1.39	1.63						
	n	77	77	77						
Other Pasifika										
	M	4.00	3.81	4.38	-0.68		-0.13	2.06		0.38
	SD	1.51	1.42	1.59						
	n	16	16	16						

* $p < .05$, ** $p < .01$, *** $p < .001$.

Cluster E

Cluster E used STAR to examine its achievement in reading comprehension in Years 4 - 8. The cluster aimed to "enhance the achievement outcomes for all students and target the achievement of Māori and Pasifika students". There were, however, no specific targets for Pasifika students in the reports provided to the researchers. The target for 2009 was "77% of Year 3 - 8 students achieving within the STAR "average" stanine band or higher (stanine 4 - 9)". The cluster has recently engaged the services of the local university to support them in their analysis of the cluster and individual school data.

Two reports were produced per year between 2005 and 2007. The first reported students' achievement at the beginning of a school year (e.g., March 2007), and the second report assessed students' achievement at the end of a school year (e.g., November 2007). These reports provided projections of student achievement progression to examine whether cluster aims would be achieved. In addition to the nine cluster analysis reports, the researchers also received over 150 data files for individual schools from 2005 to 2007.

The cluster collected data at an individual student level in a way that would allow for cohorts of matched students to be tracked over time. The cluster had some excel files titled "tracked data" where the analyst matched students who had sat all the required tests in one year. In those files, however, there was missing data (e.g., subtests for some students) and some columns were not labelled, thereby making the matched data more difficult to interpret.

Data from schools were in two forms: the first were data at an individual student level in 2006 and 2007 (but not 2005), and the second were in the form of frequency charts (e.g., frequency counts of students grouped by ethnicity, gender and stanine level). The data files had consistent ways of recording and storing the achievement information even though lists of variable names were not available (i.e., there were no explanations of what the database labels meant). The cluster's achievement reports were all similar in format and followed a structure similar to a standard scientific report with an Executive Summary at the front, followed by cluster demographics, analysis of the data, summary of findings, recommendations to the cluster, and lastly a technical report. Higher level statistical analyses (linear regression for achievement projects) were performed by the statistician that worked with the cluster. Data gathering and quality assurance of the dataset were of good standard, although not completely free of calculation errors (e.g., the numbers of students in one frequency table sampled for checking did not match the number of students in the database).

While the cluster reported a cluster-wide system for standardising the administration of the tests, there was no school-wide standard in administrating the tests. Data accuracy was checked within each school and across the whole cluster against the gender and ethnicity of the enrolment data.

The researchers did not receive a collated database for the whole cluster over the three years; rather, over 150 separate school files were provided. Matched student data across two school years was provided but records were separated by year levels in separate worksheets, and there were some missing data and missing column names. Given the financial constraints involved in re-analysing the data (i.e., having to create a cluster database from the separate files) and given the high quality of the analysis reports, the researchers did not re-analyse the data. Instead, the results presented here were extracted from Cluster E's most recent analysis reports to the cluster.

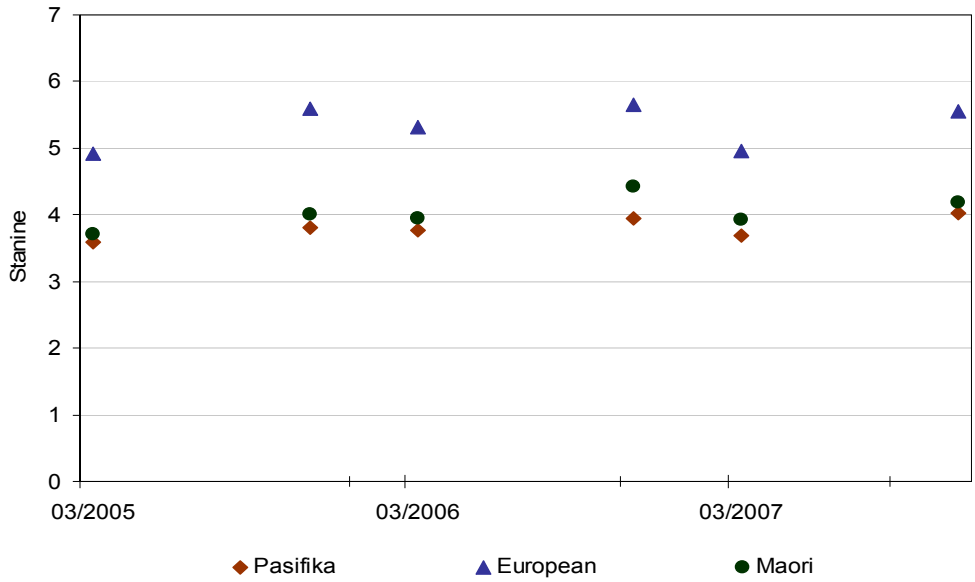
Over time an upward trend in achievement is evident. Figure 4 shows the trend graphically whilst Table 13 displays the mean stanines by ethnicity group. (Note that as the report did not cite number of students or standard deviations our analysts could not, therefore, use the matched datasets to recalculate the number of students or standard deviations from the separate school files due to financial and time constraints.) The data in Figure 4 and Table 13 are not of matched students, therefore we cannot conclude from the cluster data if gains had been made because individual students were not tracked over time. The differences in achievement over time are conflated with student absenteeism and transience, and it is not clear how student absence and transience influenced the results.

Table 13: Mean Stanine by Ethnicity Groups over time (Cluster E)

Ethnicity	1/03/2005	30/11/2005	1/03/2006	30/11/2006	1/03/2007	30/11/2007
Pasifika	3.58	3.81	3.77	3.94	3.69	4.02
European	4.91	5.59	5.32	5.65	4.95	5.55
Māori	3.7	4.01	3.94	4.42	3.92	4.19

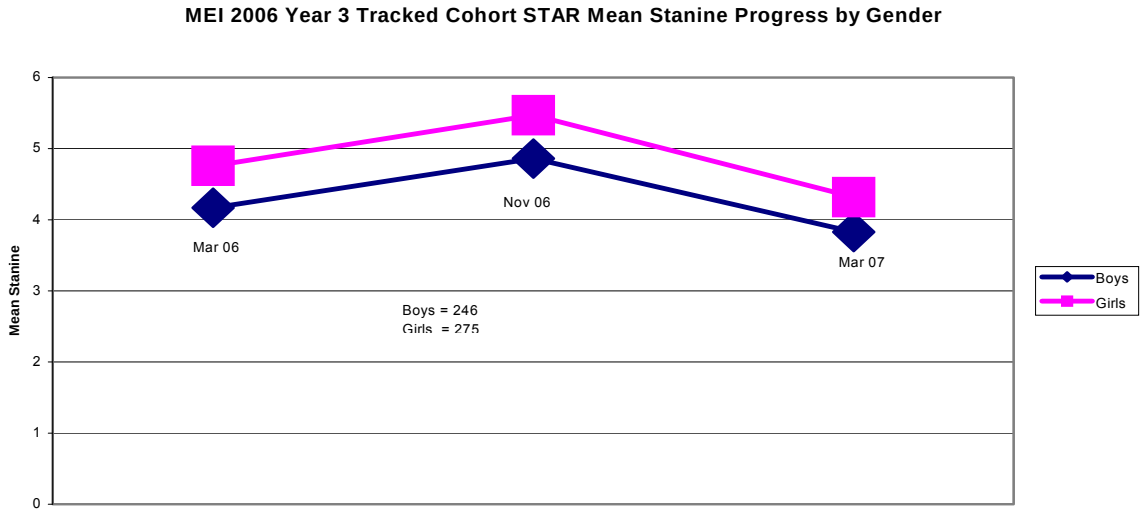
Pasifika students achieved at a lower level when compared to New Zealand European and Māori students, and the gap did not appear to close over time. On average, Pasifika students achieved below national expectations, with the exception of the end of 2007 when their achievement levels were within the average band.

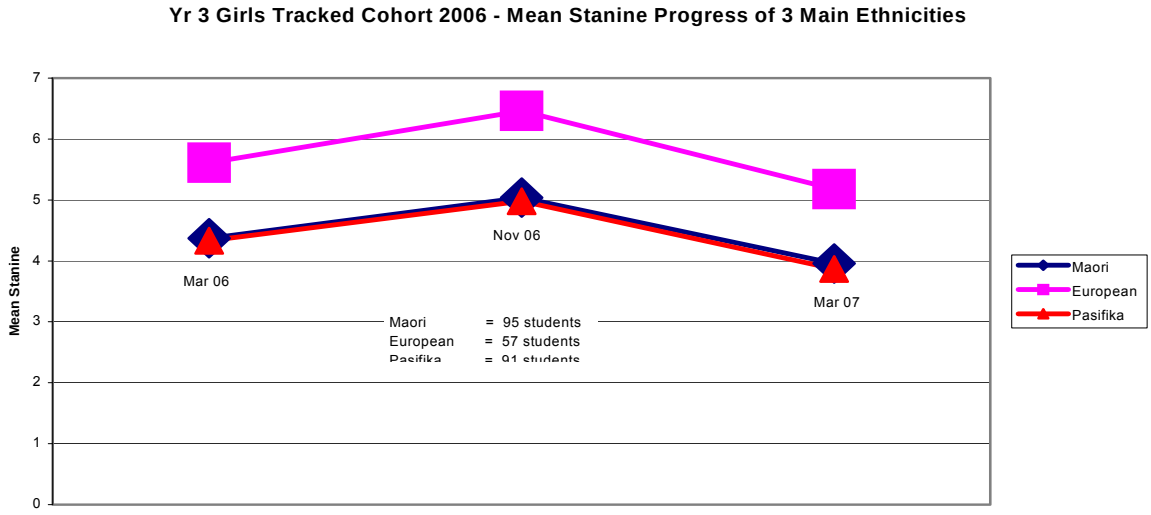
Figure 4: **Mean stanines by ethnicity groups over three years (Cluster E).**

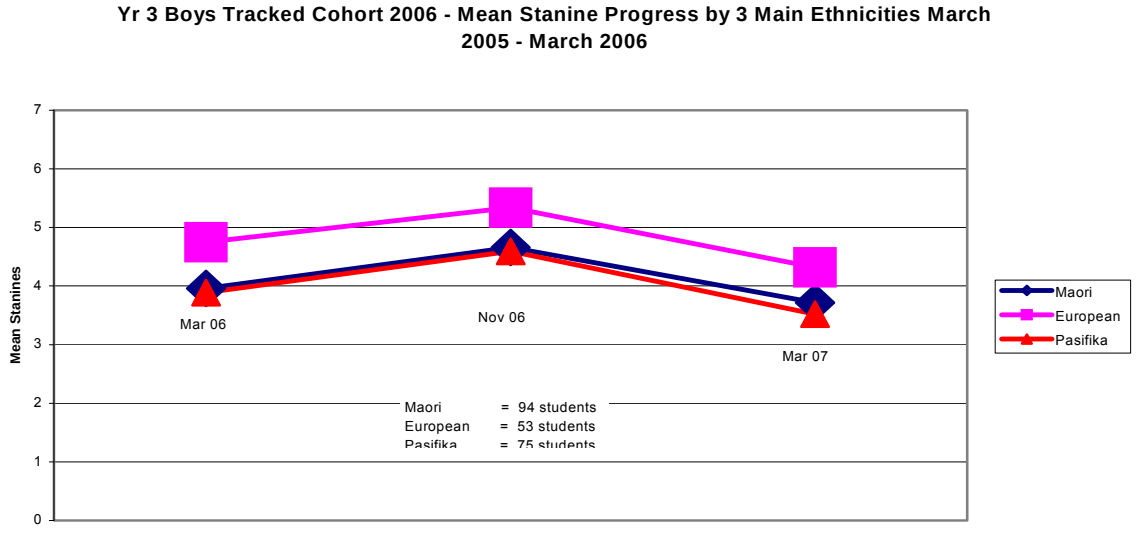


The cluster tracked the achievement of both the same students across years for Years 3 - 4 and Years 7 - 8, as well as students within year levels. As indicated in Figure *5* and Figure 6, Pasifika students showed lower achievement levels than New Zealand European students but achieved similarly to Māori students in Years 3 - 4 and Years 7 - 8. Pasifika students, like other ethnic groups, made accelerations during the school year. There did, however, appear to be a summer effect in Years 3 - 4 (Figure *5*). Both male and female students of the different ethnicities examined dropped in achievement over summer. In Years 7 - 8 this drop in achievement over summer (Figure 6) was slightly more pronounced for girls than boys.

***Figure 5*: Mean stanines by gender and ethnicity for tracked Year 3 cohort (Cluster E).**[14]

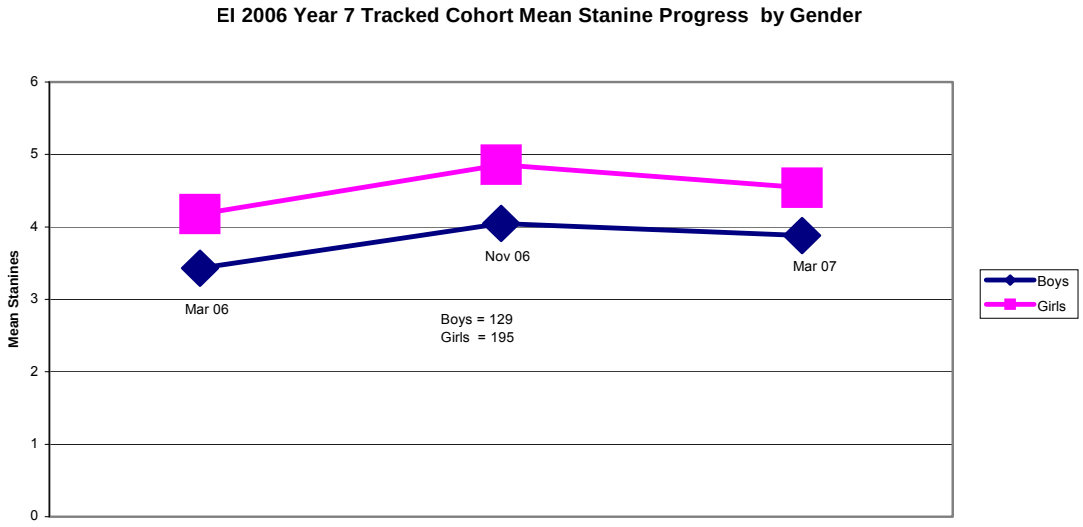


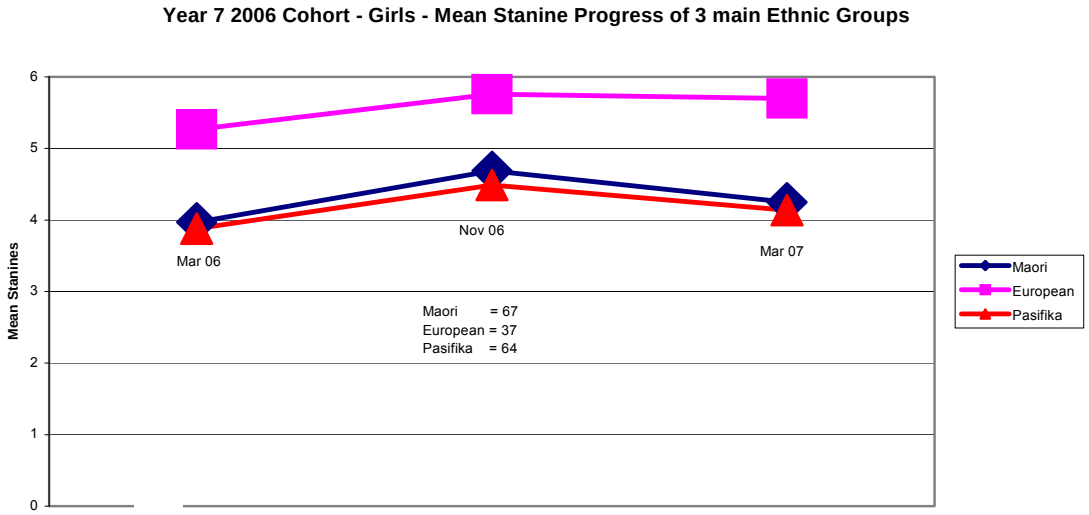


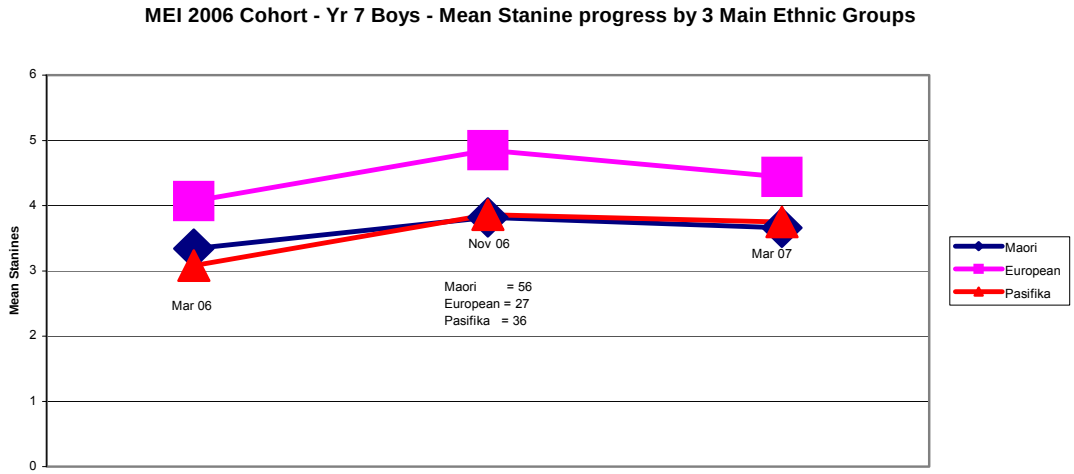


[14] Figures were taken from Cluster E's data report for November 2007.

***Figure 6*: Mean stanines by gender and ethnicity for tracked Year 7 cohorts (Cluster E).**[15]







[15] Figures were taken from Cluster E's data report for November 2007.

3.1.3 Clusters with weaker evidence of achievement

This section summarises the results for clusters with weaker evidence of achievement. To protect cluster anonymity, we have not named the specific issues and errors found in the dataset and/or reports through our verification process. The specific issues have been fed back to clusters that are now in the process of cleaning their databases. Given the issues identified within these clusters, the results in this section must be interpreted with caution.

In this section of the report we summarise the achievement results of only four clusters. (Appendix P contains tables showing the achievement results for each cluster.) We are unable to report on two clusters for the following reasons:

- One cluster did not provide any cluster data at the age levels we were examining as the data at those levels was sampled from high and low achieving classrooms and was, therefore, not representative of the cluster (designations of high and low were made by the school). There was cluster data at the other age levels; however, we were not focusing on those levels in this report.
- One cluster did not provide us with sufficient data to verify their reports (e.g., no cluster analysis report was provided) and as such they were excluded from this section of the analysis. The cluster leader reported that there were neither cluster-wide nor school-wide systems for standardising the administration of the tests. Data accuracy was checked across the cluster but not in each school.

It is also worth noting that the researchers had to reanalyse the data in three of the four clusters to clearly show the achievement of Pasifika students. (We could not reanalyse the data in one cluster because of the volume of data and the structure of the data files.)

There were some general trends in achievement which are summarised here:

- Pasifika student achievement was lower than national norms across the four clusters, although there was variation across clusters in the 'distance' from national norms. For example, in one cluster the Pasifika students in 2006 were at stanine 4.18 (*SD* = 1.58), whilst in another cluster the Pasifika students in 2006 were at stanine 2.67 (*SD* = 1.36).
- Across clusters the amount of progress varied.

In two clusters there were accelerations in achievement for the majority of cohorts (e.g., higher than the expected progress in asTTle, statistically significant progress in STAR).

One cluster did not make expected progress for Pasifika students when compared to the asTTle norms.

One cluster made expected progress; however, the levels of achievement were roughly two years behind national norms. Therefore, accelerations in achievement are required if the cluster is to progress achievement for Pasifika students further.

- In general, where we had sufficient data to examine gender and ethnicity, Pasifika males achieved less well than Pasifika females. For example, in one cluster Pasifika males scored stanine 2.31 (*SD* = 1.17) compared to stanine 3.00 (*SD* = 1.46) for Pasifika females. Non-Pasifika males scored stanine 3.68 (*SD* = 2.03) and Non-Pasifika females 4.23 (*SD* = 1.82).

3.1.4 Conclusions: What do we know about Pasifika achievement across clusters?

Our researchers were unable to provide as much data on Pasifika achievement across the clusters as we would have liked given the cluster databases, the analyses produced and the time and finance required to re-analyse the information. Clusters, however, have been cleaning their databases and conducting new analyses since our initial analysis. It must also be emphasised that clusters may have made significant improvements in achievement. Cleaning the databases and reanalysing the data would help clusters clearly demonstrate the improvements made. The Pasifika Schooling Improvement – Policy Paper (Lai, McNaughton & Amituanai-Toloa, 2009) expands on policy implications and provides recommendations to the Ministry. The Building Evaluative Capability in Schooling Improvement Project will further support schools in the analysis of their own data, as well as produce a picture of achievement gains across clusters.

Three of the nine clusters had stronger evidence of achievement. (One cluster, the Focus Cluster, is reported in a later section.) Data in one non-Focus Cluster suggested increasing improvements in student achievement of up to four months in addition to expected national progress, with Pasifika females at the expected national band (stanine 4) by 2007. Pasifika males, on the other hand, remained below national expectations and were much lower than Pasifika females. The other non-Focus Cluster with strong evidence of achievement showed an upward trend in achievement for their cohorts which were not matched, albeit the gap between Pasifika student achievement and other ethnic groups (in particular, New Zealand European students) remained large. Pasifika achievement was within the national bands by 2007 (although the data provided did not allow us to examine any gender differences). The cluster tracked achievement of the same students across years for Years 3 - 4 and Years 7 - 8 and also tracked students within year levels. Pasifika students achieved lower than New Zealand European students and similarly to Māori students in Years 3 - 4 and Years 7 - 8. Pasifika students, like students of other ethnicities, made accelerations during the school year. There did, however, appear to be a summer effect in Years 3 - 4 where achievement dropped over the summer months.

3.2 Phase Two

This section seeks to answer Research Questions 2 - 4:

1. What differences, if any, occur between the gains in the Schooling Improvement initiatives for different student groups within Pasifika (ethnicity, gender, generation in New Zealand, language)?

2. What are the practices in schools and initiatives that work, and the practices that do not work, for Pasifika students and under what conditions?

3. What are the barriers to schools achieving positive learning outcomes for Pasifika students?

For the Cluster A achievement analyses (section 3.2.1) we used the Years 4 - 8 cohorts as this was what the scope of the project covered. As the main focus was on Years 4 - 8 and not Year 9, for the general statistical analysis of Cluster A we excluded the fifth cohort. In order to increase the power of statistical modelling we included as much data that were available, therefore section 3.2.2 includes students who were Year 9 in 2008. This additional cohort was Year 8 in 2007 and Year 9 in 2008. We included as many cohorts in the data modelling as possible, because part of our interest was to see whether cohort made a difference to student achievement. Further to this, the fifth cohort in the data modelling came from a middle school and this provided the capability of looking at school-to-school differences. Without the fifth cohort this school would have had a very small sample size and we wanted to use a more representative sample for their mean. School difference became more apparent when looking at the overall mean in the data modelling.

3.2.1 Cluster A results

A total of 649 Years 4 - 8 Pasifika students sat all four tests in 2007 and 2008 (Pre-test 2007, Post-test 2007, Pre-test 2008, Post-test 2008). These students came from six schools in the cluster (one school in the cluster declined to be involved in this project). The cohort was further separated into subsets: Cohort 1 (Year 4 2007 - Year 5 2008), Cohort 2 (Year 5 2007 - Year 6 2008), Cohort 3 (Year 6 2007 - Year 7 2008) and Cohort 4 (Year 7 2007 - Year 8 2008). The largest cohort was Cohort 4, with 254 students (39%), followed by 147 students in Cohort 1 (23%), 146 students in Cohort 2 (22%) and 102 students in Cohort 3 (16%). The reason for Cohort 3 being a smaller proportion of the total sample is due to the inclusion of one contributing primary school and two intermediate schools who do not have students in Year 6.

Nearly half of these students were Samoan, with 305 students (47%). There were 175 Tongan students (27%), 108 Cook Island Māori students (17%), and 61 students from 'Other Pasifika' groups (9%) including 48 Niuean students (7%), 9 Tokelauan students (1%), and 3 Fijian students (less than 1%). Only one student was from a Pasifika group other than those listed here. There were 349 females (54%) and 300 males (46%).

As a baseline, the mean stanines of all students present at Pre-test 2007 (including those who sat all tests plus those who sat some but not all tests) can be broken down by ethnicity. 'Other Pasifika' groups had the highest mean stanine (M = 3.54, SD = 1.58), followed by Samoan (M = 3.47, SD = 1.53), Cook Island Māori (M = 3.15, SD = 1.51) and Tongan (M = 3.01, SD = 1.38). Overall the mean stanine was 3.29 (SD = 1.50).

Achievement

As seen in Figure 7 and Table 14, the percentage of students in the higher bands increased and the percentage in the lower bands decreased from Pre-test 2007 to Post-test 2008, which indicates an improvement in achievement. At both time points, however, there were fewer students in the higher bands than national norms.

These differences in the distribution between Pre-test 2007 and Post-test 2008 were tested using the chi square (χ^2) test. This was found to be significant ($\chi^2(df = 5, N = 649) = 194.01, p < .001$). Additionally, the distribution at both Pre-test 2007 and Post-test 2008 was found to be significantly different from national norms ($\chi^2(df = 5, N = 649) = 545.77, p < .001$ for Pre-test 2007 and $\chi^2(df = 5, N = 649) = 131.58, p < .001$ for Post-test 2008). As seen in Figure 7, at both time points there were more students in the lower bands and less in the higher bands than national norms, indicating that although the distribution is slowly moving toward the national norm distribution, greater improvements are still needed.

***Figure 7*: Mean percentages of students scoring within achievement bands at Pre-test 2007 and Post-test 2008 (Cluster A).**

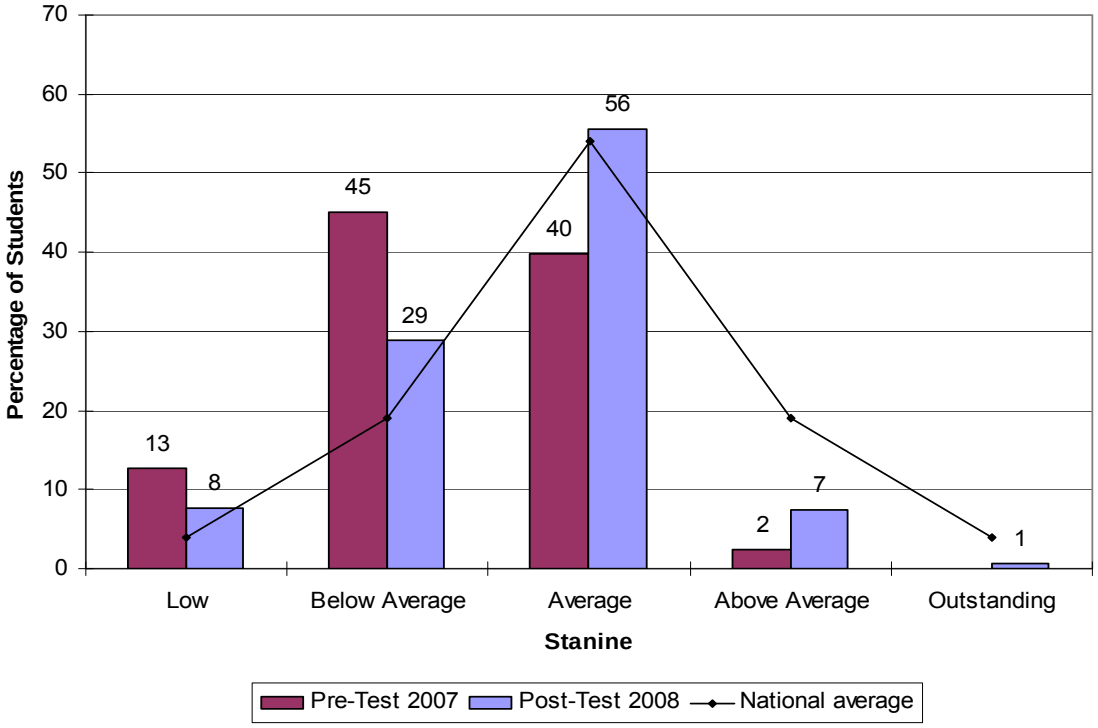


Table 14: Mean Percentages of Students (and Numbers of Students) within Achievement Bands Compared with National Expectations (Cluster A)

	Low (Stanine 1)	Below Average (Stanine 2-3)	Average (Stanine 4-6)	Above Average (Stanine 7-8)	Outstanding (Stanine 9)
Expected %	4	19	54	19	4
(number)	(25.96)	(123.31)	(350.46)	(123.31)	(25.96)
Pre-test 2007 %	12.79	44.99	39.91	2.31	0.00
(number)	(83)	(292)	(259)	(15)	(0)
Post-test 2008 %	7.55	28.81	55.62	7.40	0.62
(number)	(49)	(187)	(361)	(48)	(4)

Note that in all χ^2 tests, individual stanines from 1 to 5 were included, and stanines 6 - 9 were collapsed into one band. This was necessary as each stanine band needed to contain at least 5 students for valid statistical analyses.

As seen in Table 15, Table 16 and Figure 8, achievement improved significantly from Pre-test 2007 to Post-test 2008, and throughout each academic year (Pre-test to Post-test 2007 and Pre-test to Post-test 2008) for all cohorts.

Table 15: Mean Stanines by Cohort at Pre-test 2007 and Post-test 2008 (Cluster A)

		Pre-test 2007	Post-test 2008	*t*		*d*
Cohort 1						
	M	3.14	4.09	9.39	***	0.69
	SD	1.33	1.44			
	n	147	147			
Cohort 2						
	M	3.92	4.70	6.80	***	0.45
	SD	1.60	1.88			
	n	146	146			
Cohort 3						
	M	3.40	3.70	2.55	*	0.17
	SD	1.85	1.75			
	n	102	102			
Cohort 4						
	M	3.02	3.96	13.12	***	0.62
	SD	1.31	1.68			
	n	254	254			
Total						
	M	3.31	4.12	16.52	***	0.50
	SD	1.51	1.72			
	N	649	649			

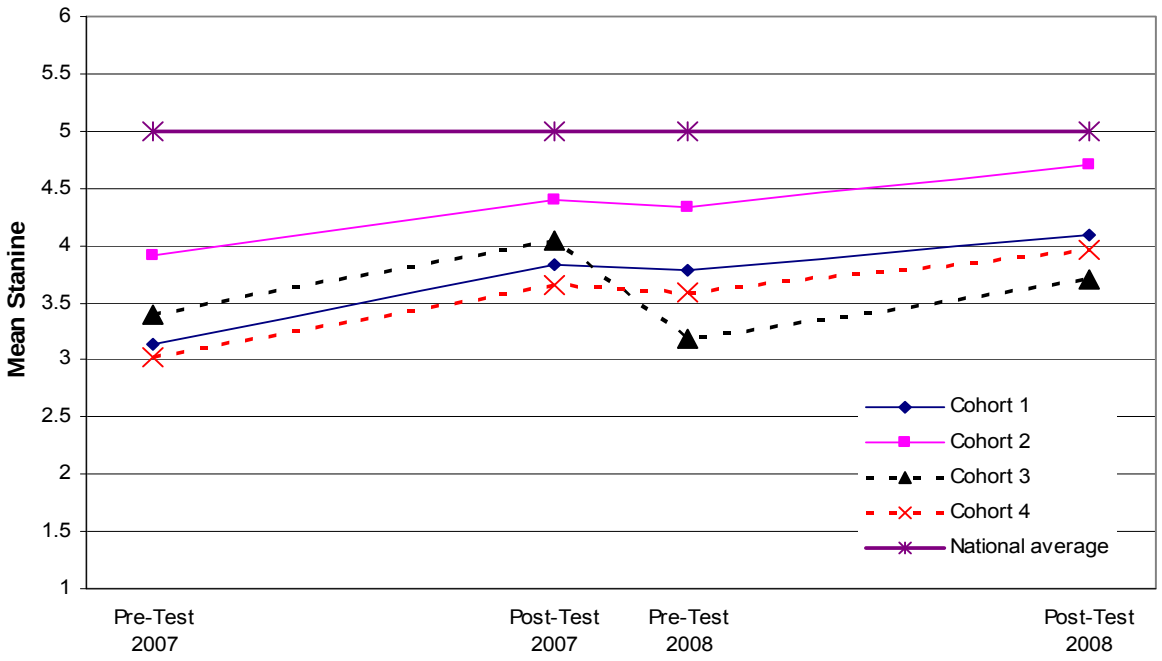
****p*<.001. ***p*<.01. **p*<.05

Table 16: Mean Stanines by Cohort at Pre-test 2007 to Post-test 2008 (Cluster A)

	Pre-test 2007	Post-test 2007	*t*		*d*	Pre-test 2008	Post-test 2008	*t*		*d*
Cohort 1										
M	3.14	3.83	5.94	***	0.48	3.78	4.09	3.53	***	0.21
SD	1.33	1.52				1.48	1.44			
n	147	147				147	147			
Cohort 2										
M	3.92	4.40	5.39	***	0.28	4.34	4.70	3.58	***	0.21
SD	1.60	1.78				1.60	1.88			
n	146	146				146	146			
Cohort 3										
M	3.40	4.05	5.56	***	0.33	3.18	3.70	6.07	***	0.32
SD	1.85	2.07				1.52	1.75			
n	102	102				102	102			
Cohort 4										
M	3.02	3.65	10.69	***	0.43	3.59	3.96	6.19	***	0.22
SD	1.31	1.60				1.62	1.68			
n	254	254				254	254			
Total										
M	3.31	3.92	13.82	***	0.38	3.73	4.12	9.35	***	0.23
SD	1.51	1.73				1.61	1.72			
N	649	649				649	649			

****p*<.001. ***p*<.01. **p*<.05

Figure 8: **Mean stanine scores for cohorts over two years (four time points) (Cluster A).**



While all cohorts made losses over the summer break (Post-test 2007 to Pre-test 2008) (see Table 17), these were very small, and did not reach statistical significance for Cohorts 1, 2 and 4. There was, however, an overall drop in achievement across the cluster as a whole, which may be due to the large loss in achievement over summer for Cohort 3. Cohort 3 was the cohort of students who progressed from Year 6 to Year 7. We have noticed a consistent drop in achievement over the summer for students progressing from Year 6 to Year 7 across various projects, which may suggest that the drop between Year 6 and 7 is due to the change in the STAR test used rather than a loss of learning over summer (Lai & McNaughton, 2008). The critical issue is whether the achievement for the Year 6 to 7 cohort improved enough to 'recover' from that drop over summer.

Table 17: Mean Stanines by Cohort for the Summer Period 2007-2008 (Cluster A)

		Post-test 2007	Pre-test 2008	*t*		*d*
Cohort 1						
	M	3.83	3.78	-0.41		-0.03
	SD	1.52	1.48			
	n	147	147			
Cohort 2						
	M	4.40	4.34	-0.78		-0.04
	SD	1.78	1.60			
	n	146	146			
Cohort 3						
	M	4.05	3.18	-6.97	***	-0.48
	SD	2.07	1.52			
	n	102	102			
Cohort 4						
	M	3.65	3.59	-1.03		-0.04
	SD	1.60	1.62			
	n	254	254			
Total						
	M	3.92	3.73	-4.05	***	-0.11
	SD	1.73	1.61			
	N	649	649			

****p*<.001. ***p*<.01. **p*<.05

Gender and ethnicity

The combined effect of gender and ethnicity was tested using a univariate ANOVA, reported in Table 18.. The interaction between gender and ethnicity was significant for Cohort 2 at Pre-test 2007, and Cohort 3 at Pre-test 2007 and Pre-test 2008, and was not significant for Cohorts 1 or 4 at any time point. The main effect of gender was significant for Cohort 2 at Post-test 2008, and for Cohort 4 at all time points. The main effect of ethnicity was significant for Cohort 2 at all time points and Cohort 4 at Post-test 2008 only. These effects indicate that the effect of gender and ethnicity, and various combinations of gender and ethnicity, varies by cohort. This suggests that gender and ethnicity differences are not 'fixed' and further research is needed to understand the conditions under which no such differences will occur.

Table 18: ANOVA by Gender and Ethnicity (Cluster A)

Time	Pre-test 2007		Post-test 2007		Pre-test 2008		Post-test 2008	
	F (*p* value)	ES	*F* (*p* value)	ES	*F* (*p* value)	ES	*F* (*p* value)	ES
Cohort 1								
Main Effect								
Gender	2.06	0.01	0.62	0.00	3.31	0.02	1.87	0.01
(*df* =1, 180)	(0.15)		(0.43)		(0.07)		(0.17)	
Ethnicity	1.38	0.03	2.24	0.05	1.69	0.04	1.83	0.04
(*df* =3, 180)	(0.25)		(0.09)		(0.17)		(0.14)	
Interaction								
G x E	0.45	0.01	1.17	0.02	0.40	0.01	0.51	0.01
(*df* =3, 180)	(0.71)		(0.32)		(0.76)		(0.67)	
Cohort 2								
Main Effect								
Gender	2.35	0.02	2.58	0.02	0.17	<0.01	4.90	0.03
(*df* =1, 171)	(0.13)		(0.11)		(0.68)		(0.03)	
Ethnicity	2.85	0.06	4.67	0.09	3.22	0.07	5.21	0.10
(*df* =3, 171)	(0.04)		(<0.01)		(0.02)		(<0.01)	
Interaction								
G x E	1.59	0.03	0.37	0.01	0.62	0.01	1.45	0.03
(*df* =3, 171)	(0.19)		(0.77)		(0.61)		(0.23)	
Cohort 3								
Main Effect								
Gender	0.37	0.00	0.73	0.01	0.24	0.00	0.76	0.01
(*df* =1, 94)	(0.55)		(0.39)		(0.62)		(0.39)	
Ethnicity	2.03	0.06	1.51	0.05	1.34	0.04	1.45	0.04
(*df* =3, 94)	(0.12)		(0.22)		(0.26)		(0.23)	
Interaction								
G x E	3.40	0.10	2.18	0.07	4.54	0.13	1.36	0.04
(*df* =3, 94)	(0.02)		(0.10)		(0.01)		(0.26)	
Cohort 4								
Main Effect								
Gender	11.02	0.04	13.04	0.05	13.34	0.05	13.12	0.05
(*df* =1, 246)	(<0.01)		(<0.01)		(<0.01)		(<0.01)	
Ethnicity	2.12	0.03	4.94	0.06	1.96	0.02	2.33	0.03
(*df* =3, 246)	(0.10)		(<0.01)		(0.12)		(0.07)	
Interaction								
G x E	0.98	0.01	0.39	0.00	0.56	0.01	0.31	0.00
(*df* =3, 246)	(0.40)		(0.76)		(0.64)		(0.82)	

Note: The effect size reported in this table is partial eta squared.

While gains were similar for males and females (see Figure 9), as seen in Table 19, there were significant differences between males and females at each time point. On average, female students scored higher than males by around 0.5 stanine.

Figure 9: **Mean stanine scores for each gender over two years (4 time points) (Cluster A).**

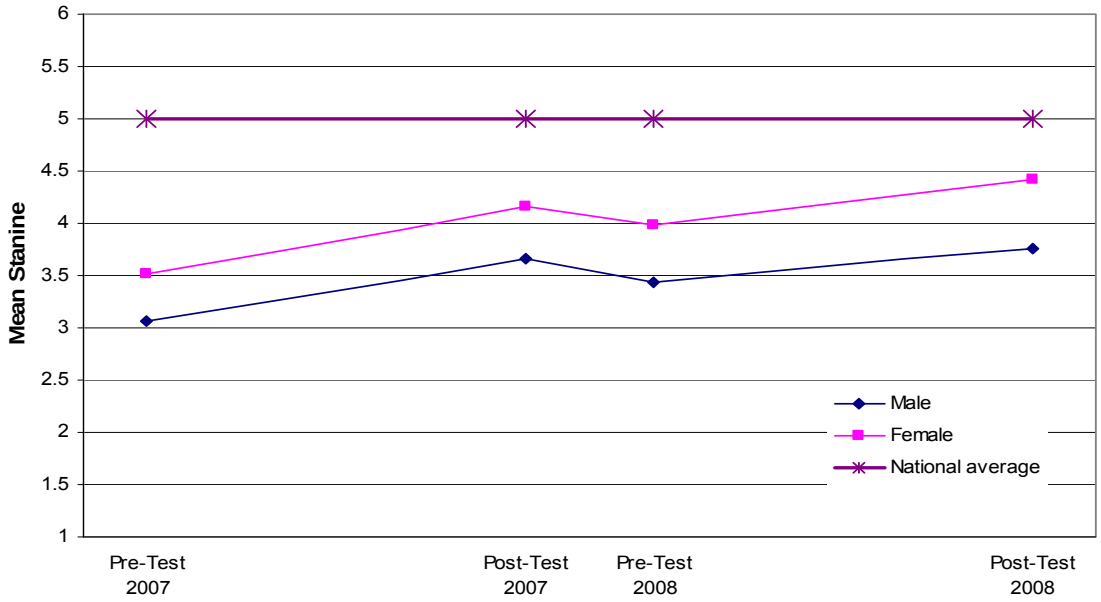


Table 19: Means (and Standard Deviations) of Gender Differences at Each Time Point (Cluster A)

		Gender		Gender Difference			
		Male	Female	*M*	*t*		*d*
Pre-test 2007							
	M	3.06	3.52	0.46	-3.86	***	-0.31
	SD	1.53	1.48				
Post-test 2007							
	M	3.65	4.15	0.50	-3.70	***	-0.29
	SD	1.78	1.64				
Pre-test 2008							
	M	3.44	3.99	0.54	-4.30	***	-0.35
	SD	1.69	1.50				
Post-test 2008							
	M	3.76	4.42	0.66	-4.93	***	-0.39
	SD	1.76	1.62				

****p*<.001. ***p*<.01. **p*<.05

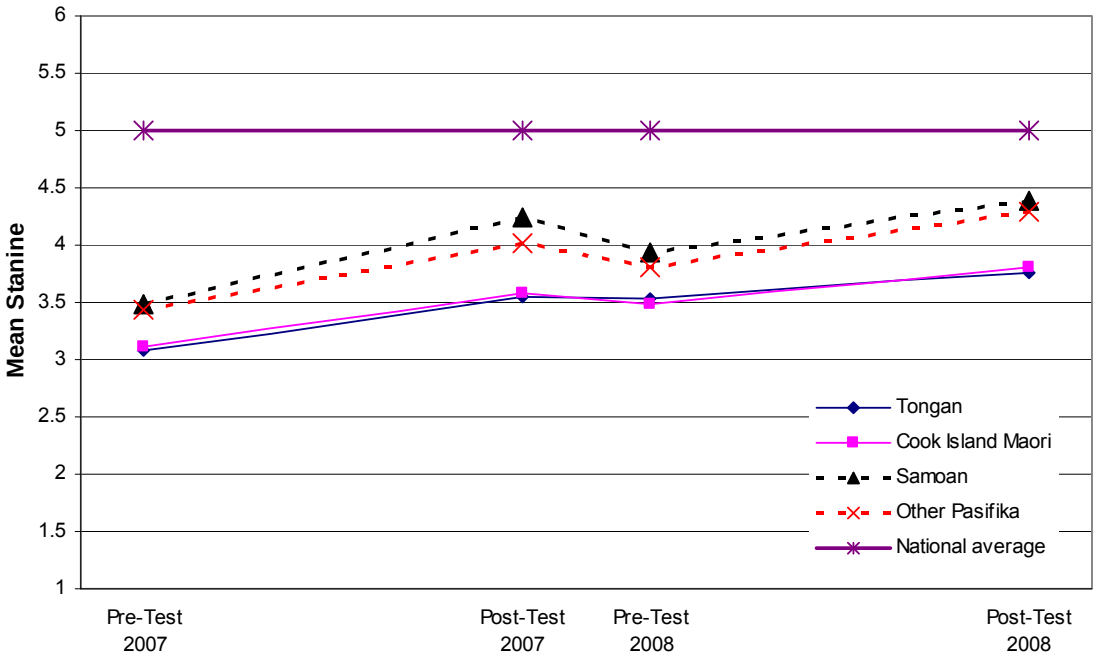
A one-way ANOVA, reported in Table 20, found significant differences between ethnic groups at all four time points. Post-hoc comparisons using a Bonferroni adjustment found Samoan students' mean stanine scores were significantly higher than Tongan students' scores at Pre-test and Post-test 2007 and Post-test 2008, and Samoan students scored significantly higher than Cook Island students at Post-test 2007 and Post-test 2008. No other significant differences were found. This is illustrated in Figure 10. It is worth noting that students of other Pasifika groups had similar scores to Samoan students.

Table 20: One-way ANOVA by Ethnicity (Cluster A)

	F (*p* value)	ES
Pre-test 2007	3.59	0.02
(*df* = 3, 645)	(0.01)	
Post-test 2007	7.85	0.04
(*df* = 3, 645)	(<0.01)	
Pre-test 2008	3.34	0.02
(*df* = 3, 645)	(0.02)	
Post-test 2008	6.58	0.03
(*df* = 3, 645)	(<0.01)	

Note: The effect size reported in this table is partial eta squared.

***Figure 10*: Mean stanine scores for ethnic groups over two years (4 time points) (Cluster A).**



As seen in Table 21 and Table 22, all ethnic groups made significant gains from Pre-test 2007 to Post-test 2008, and throughout each year (Pre-test to Post-test 2007 and Pre-test to Post-test 2008). The three main ethnic groups made less gain in 2008 than in 2007.

Table 21: Mean Stanine Scores and Significance Levels by Ethnicity for Pre-test 2007 and Post-*test 2008 (Cluster A)*

	Pre-test 2007	Post-test 2008	*t*		*d*
Tongan					
M	3.07	3.77	7.80	***	0.46
SD	1.42	1.60			
n	175	175			
Cook Island Māori					
M	3.11	3.81	6.85	***	0.43
SD	1.49	1.73			
n	108	108			
Samoan					
M	3.49	4.39	11.83	**	0.55
SD	1.55	1.73			
n	305	305			
Other Pasifika					
M	3.44	4.30	5.22	***	0.53
SD	1.55	1.72			
n	61	61			
Total					
M	3.31	4.12	16.52	***	0.50
SD	1.51	1.72			
N	649	649			

****p*<.001. ***p*<.01. **p*<.05

Table 22: Mean Stanine Scores and Significance Levels by Ethnicity for All Time Points (Cluster A)

	Pre-test 2007	Post-test 2007	*t*		*d*	Pre-test 2008	Post-test 2008	*t*		*d*
Tongan										
M	3.07	3.55	5.41	***	0.30	3.53	3.77	3.35	***	0.15
SD	1.42	1.72				1.68	1.60			
n	175	175				175	175			
Cook Island Māori										
M	3.11	3.58	4.54	***	0.30	3.49	3.81	3.43	***	0.19
SD	1.49	1.67				1.70	1.73			
n	108	108				108	108			
Samoan										
M	3.49	4.24	11.47	***	0.46	3.93	4.39	7.28	***	0.28
SD	1.55	1.71				1.54	1.73			
n	305	305				305	305			
Other Pasifika										
M	3.44	4.02	4.45	***	0.37	3.80	4.30	3.74	***	0.31
SD	1.55	1.62				1.53	1.72			
n	61	61				61	61			
Total										
M	3.31	3.92	13.82	***	0.38	3.73	4.12	9.35	***	0.23
SD	1.51	1.73				1.61	1.72			
N	649	649				649	649			

****p*<.001. ***p*<.01. **p*<.05

Gains in achievement

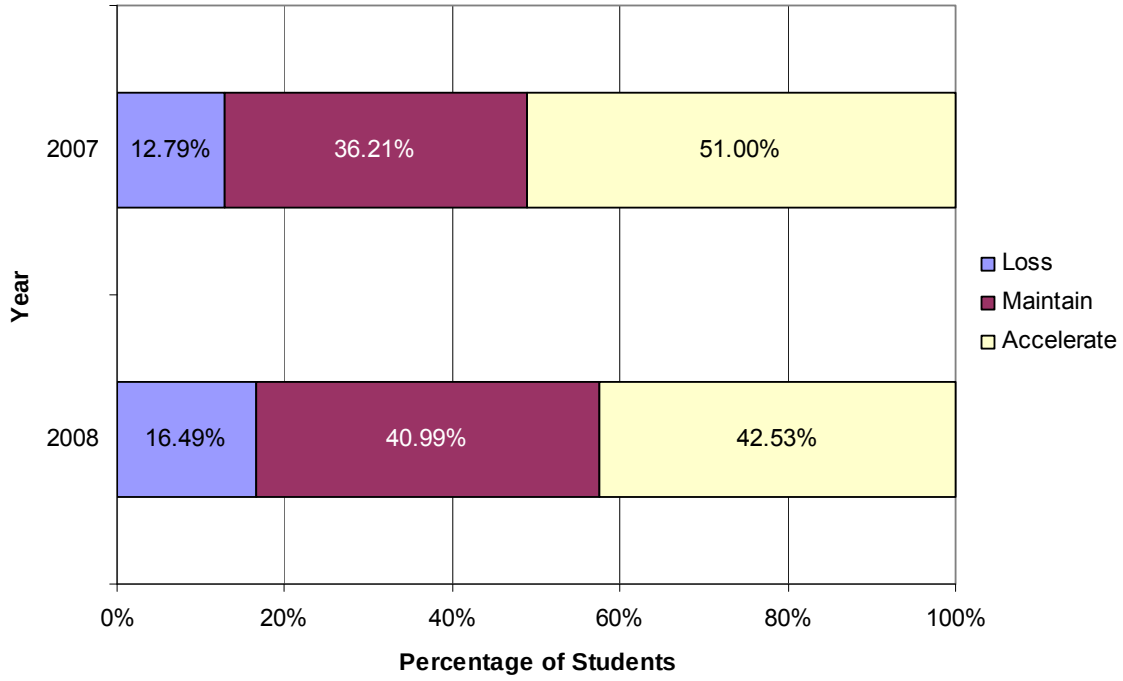
Gain scores for each year were calculated for individual students by subtracting the Pre-test stanine from the Post-test stanine. In 2007, over half of the students accelerated in stanines (51%), meaning that their end of year stanine was higher than their stanine at the start of the year. A further 36% of students maintained the same stanine from the start to the end of the year, and only 13% had lower stanines at the end of the year than at the beginning.

In 2008, a large proportion of students accelerated also (43%). A further 41% maintained the same stanine, and 16% had a lower stanine at the end of the year. These proportions are illustrated in Table 23 and Figure 11.

Table 23: Frequency and Percentage of Students who Lost, Maintained and Accelerated Achievement in 2007 and 2008 (Cluster A)

		2007	2008
Loss			
	Frequency	83	107
	Percent	12.79%	16.49%
Maintain			
	Frequency	235	266
	Percent	36.21%	40.99%
Accelerate			
	Frequency	331	276
	Percent	51.00%	42.53%

Figure 11: **Percentage of students, who lost, maintained and accelerated achievement in 2007 and 2008 (Cluster A).**



Gains were also calculated separately by initial stanine at Pre-test as seen in Table 24 and Figure 12 for 2007, and Table 25 and Figure 13 for 2008. For example, of those students who had a stanine score of 1 in Pre-test 2007, 44.58% maintained their score (i.e., had a stanine of 1 in Term 4, 2007) and 55.42% accelerated (i.e., had a stanine score higher than 1 in Term 4, 2007). In general, across both 2007 and 2008, students who began on lower stanines were more likely to accelerate than those on higher stanines. This might reflect a focus on lifting stanine 3 students, or a more general effect whereby the interventions are mostly effective for students in these bands, and more targeted interventions are needed for higher bands. Small numbers and regression to the mean effects might also explain the smaller gains in the upper stanines.

Table 24: Frequency and Percentage of Students who Lost, Maintained and Accelerated *Achievement by Pre-test Stanine in 2007 (Cluster A)*

	Stanine 1	Stanine 2	Stanine 3	Stanine 4	Stanine 5	Stanine 6	Stanine 7	Stanine 8
Loss								
Frequency		13	23	22	11	12	1	1
Percent		11.02%	13.22%	15.94%	13.58%	30.00%	9.09%	25.00%
Maintain								
Frequency	37	46	45	48	35	17	5	2
Percent	44.58%	38.98%	25.86%	34.78%	43.21%	42.50%	45.45%	50.00%
Accelerate								
Frequency	46	59	106	68	35	11	5	1
Percent	55.42%	50.00%	60.92%	49.28%	43.21%	27.50%	45.45%	25.00%

Table 25: Frequency and Percentage of Students who Lost, Maintained and Accelerated Achievement by Pre-test Stanine in 2008 (Cluster A)

	Stanine 1	Stanine 2	Stanine 3	Stanine 4	Stanine 5	Stanine 6	Stanine 7	Stanine 8
Loss								
Frequency		11	16	25	23	17	12	3
Percent		11.70%	11.27%	17.61%	19.66%	25.37%	57.14%	50.00%
Maintain								
Frequency	34	30	54	64	50	27	4	3
Percent	56.67%	31.91%	38.03%	45.07%	42.74%	40.30%	19.05%	50.00%
Accelerate								
Frequency	26	53	72	53	44	23	5	0
Percent	43.33%	56.38%	50.70%	37.32%	37.61%	34.33%	23.81%	0.00%

Figure 12: **Percentage of students, who lost, maintained and accelerated achievement by Pre-test stanine in 2007 (Cluster A).**

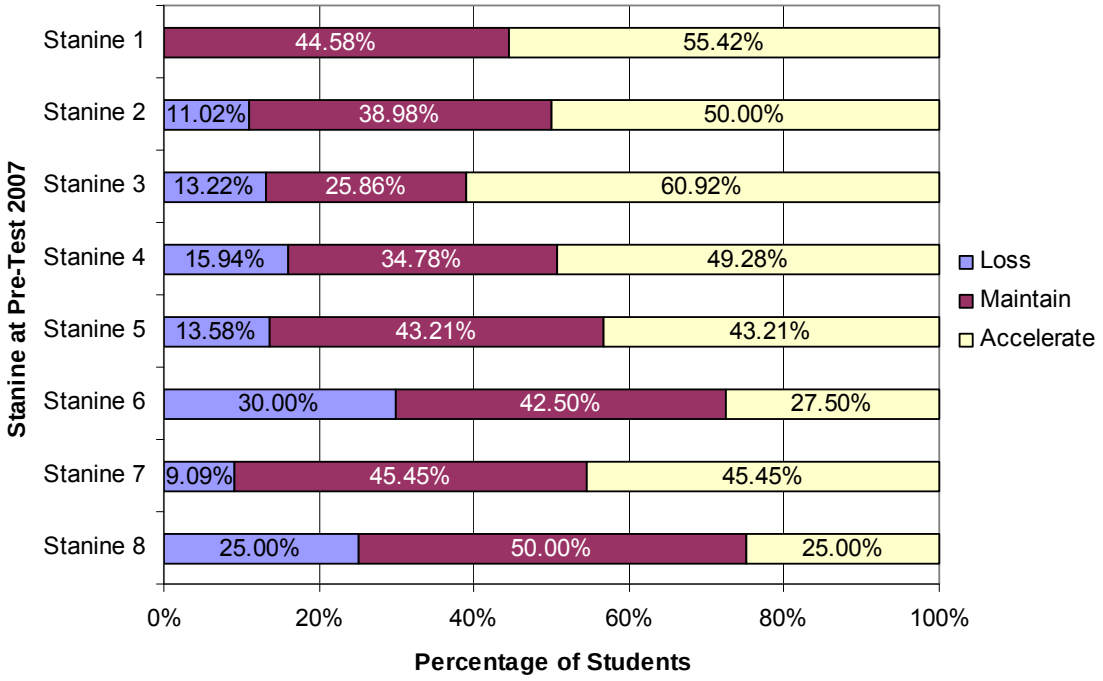
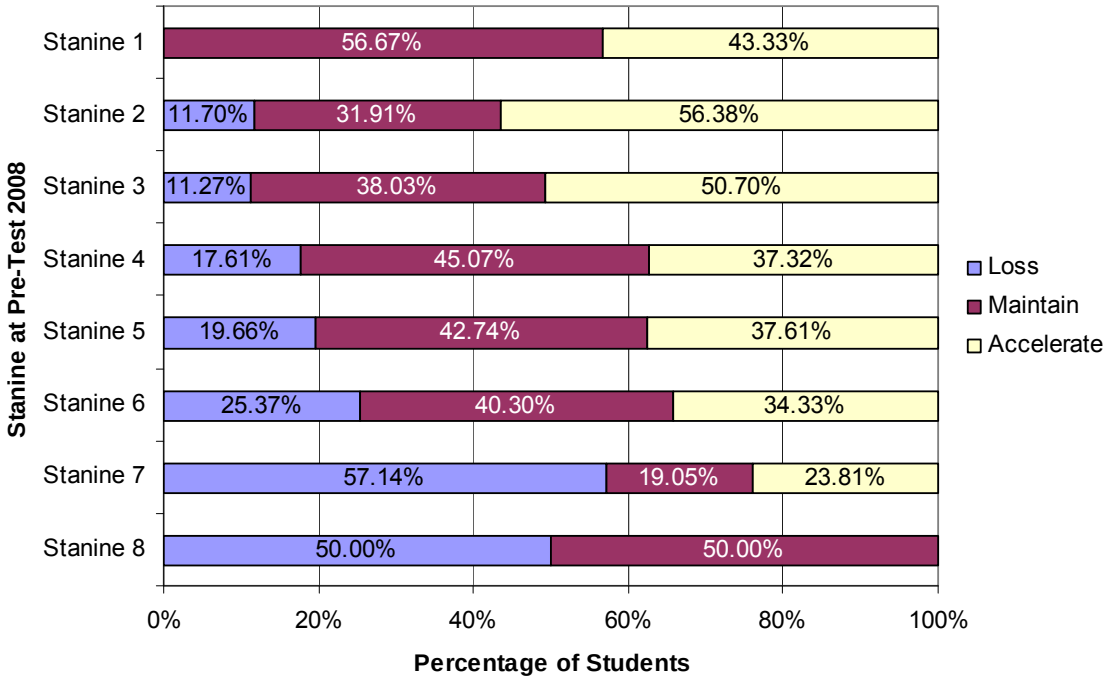


Figure 13: **Percentage of students, who lost, maintained and accelerated achievement by Pre-test stanine in 2008 (Cluster A).**



The percentage of students who accelerated varied only slightly between the different cohorts, as seen in Table 26 and Table 27, and Figure 14 and Figure 15. These percentages varied from year to year. For example, Cohort 1 had the highest percentage of students who accelerated compared with other cohorts in 2007, but the lowest percentage in 2008.

Table 26: Frequency and Percentage of Students, who Lost, Maintained and Accelerated Achievement by Cohort in 2007 (Cluster A)

		Cohort 1	Cohort 2	Cohort 3	Cohort 4
Loss					
	Frequency	28	23	12	20
	Percent	19.05%	15.75%	11.76%	7.87%
Maintain					
	Frequency	35	56	41	103
	Percent	23.81%	38.36%	40.20%	40.55%
Accelerate					
	Frequency	84	67	49	131
	Percent	57.14%	45.89%	48.04%	51.57%

Figure 14: **Percentage of students, who lost, maintained and accelerated achievement by cohort in 2007 (Cluster A).**

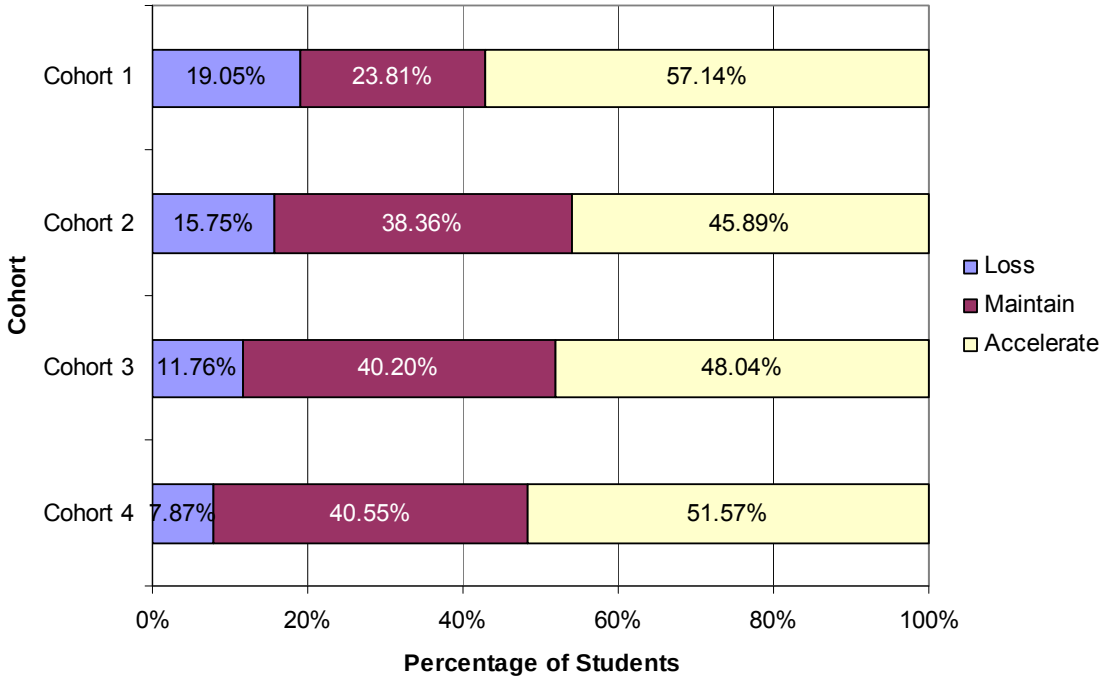
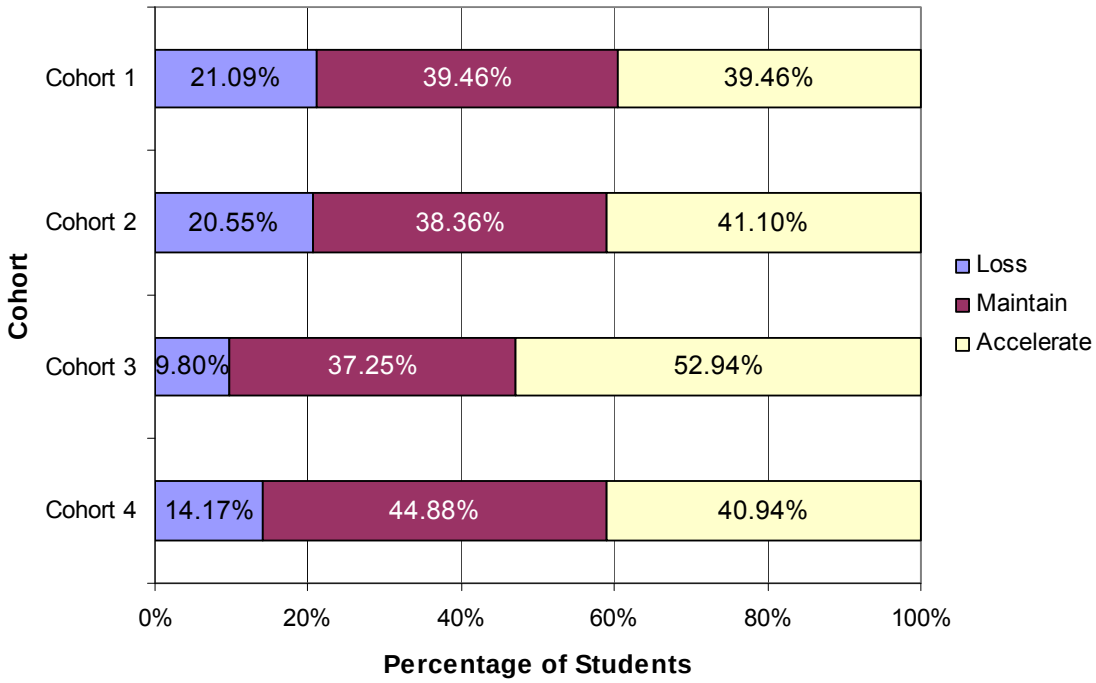


Table 27: Frequency and Percentage of Students who Lost, Maintained and Accelerated Achievement by Cohort in 2008 (Cluster A)

		Cohort 1	Cohort 2	Cohort 3	Cohort 4
Loss					
	Frequency	31	30	10	36
	Percent	21.09%	20.55%	9.80%	14.17%
Maintain					
	Frequency	58	56	38	114
	Percent	39.46%	38.36%	37.25%	44.88%
Accelerate					
	Frequency	58	60	54	104
	Percent	39.46%	41.10%	52.94%	40.94%

Figure 15: **Percentage of students, who lost, maintained and accelerated achievement by cohort in 2008 (Cluster A).**



Classroom gains

Classroom gain scores for each year were calculated by subtracting the classroom's Pre-test mean stanine from the Post-test mean stanine. This section only includes students who did not change class within any one year, leaving a total of 617 students in 2007 and 620 students in 2008.

As seen in Figure 16, almost every class made accelerated gains from Pre-test 2007 to Post-test 2007. While more classes made losses in 2008 than in 2007 (see Figure 17), the majority of classes still made gains during this year also. It is important to note that a stanine loss does not indicate negative learning. Rather, it indicates that on average, students made less than expected progress for that year. In summary, 92.16% of classes made gains in 2007, compared to 73.47% of classes in 2008.

***Figure 16*: Mean gains from Pre-test to Post-test 2007 by classroom (Cluster A). Note: The gap between those who made losses and gains represents 2 classes whose mean stanine scores were identical from Pre-test 2007 to Post-test 2007, i.e., they neither gained nor lost in stanines.**

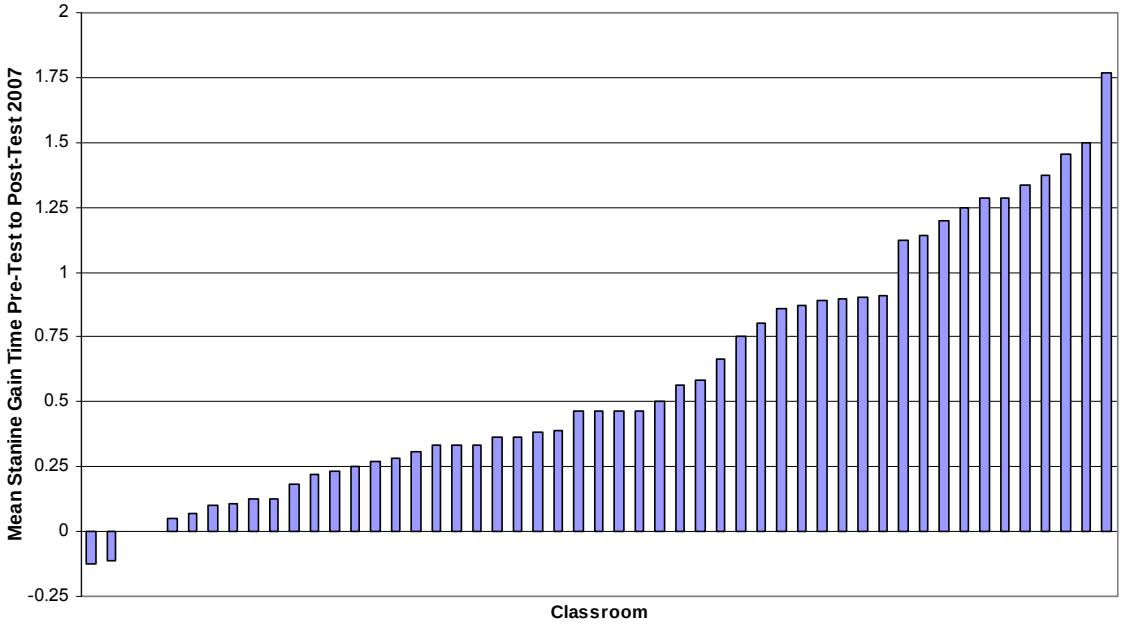
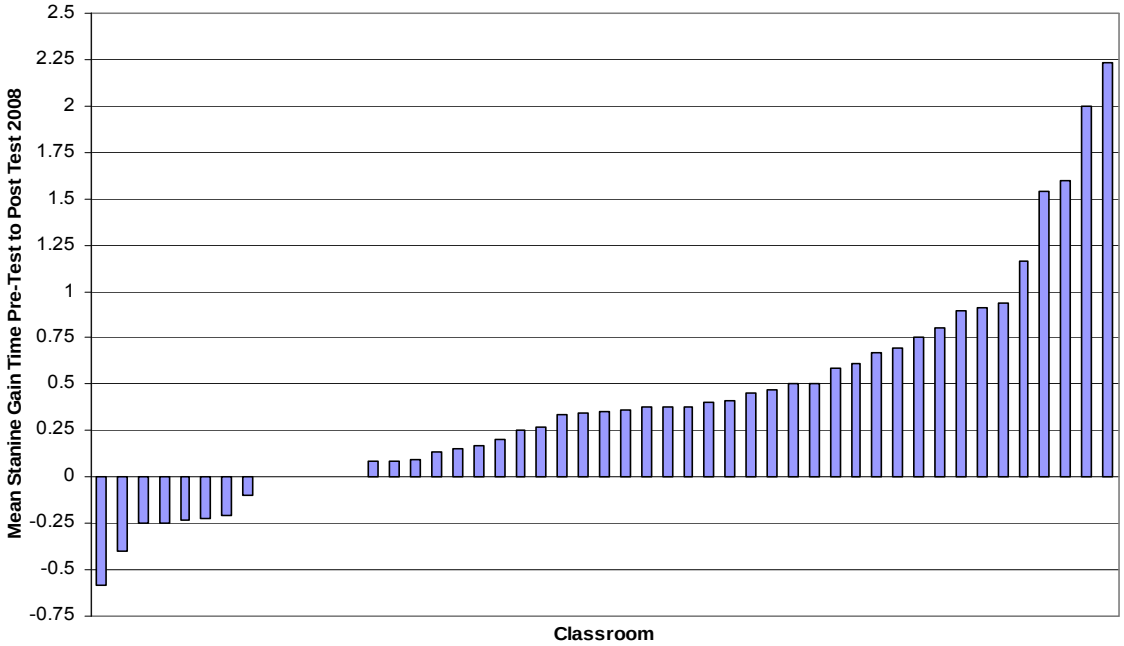


***Figure 17*: Mean gains from Pre-test to Post-test 2008 by classroom (Cluster A). Note: The gap between those who made losses and gains represents 5 classes whose mean stanine scores were identical from Pre-test 2008 to Post-test 2008, i.e., they neither gained nor lost in stanines.**



Achievement by school

All schools made gains between the beginning of 2007 and the end of 2008. Mean scores by school are presented in Table 28. Effect sizes ranged from 0.38 to 0.77.

Table 28: Mean Stanine Scores by School at Pre-test 2007 and Post-test 2008 (Cluster A)

		Pre-test 2007	Post-test 2008	*t*		*d*
School A1						
	M	3.25	4.01	8.01	***	0.50
	SD	1.45	1.60			
	n	163	163			
School A2						
	M	3.04	3.57	4.45	***	0.38
	SD	1.26	1.49			
	n	84	84			
School A3						
	M	3.00	4.03	6.68	***	0.56
	SD	1.68	1.96			
	n	105	105			
School A4						
	M	3.86	4.59	7.57	***	0.48
	SD	1.55	1.49			
	n	131	131			
School A5						
	M	3.63	4.41	5.71	***	0.45
	SD	1.52	1.93			
	n	98	98			
School A6						
	M	2.72	3.85	9.88	***	0.77
	SD	1.22	1.69			
	n	68	68			

****p*<.001. ***p*<.01. **p*<.05

Almost all schools made significant gains (see Table 29) from the beginning to the end of the 2007 academic year (with the exception of School A5, whose Pre-test to Post-test 2007 gains did not reach significance).

Table 29: Mean Stanine Scores by School at All Time Points (Cluster A)

	Pre-test 2007	Post-test 2007	*t*		*d*	Pre-test 2008	Post-test 2008	*t*		*d*
School A1										
M	3.25	3.76	6.49	***	0.34	3.55	4.01	6.14	***	0.30
SD	1.45	1.57				1.52	1.60			
n	163	163				163	163			
School A2										
M	3.04	3.65	5.12	***	0.42	3.19	3.57	3.65	***	0.27
SD	1.26	1.65				1.36	1.49			
n	84	84				84	84			
School A3										
M	3.00	3.39	4.06	***	0.23	3.76	4.03	2.24	*	0.14
SD	1.68	1.70				1.81	1.96			
n	105	105				105	105			
School A4										
M	3.86	4.99	11.22	***	0.68	4.21	4.59	4.68	***	0.25
SD	1.55	1.75				1.55	1.49			
n	131	131				131	131			
School A5										
M	3.63	3.90	1.87		0.18	3.99	4.41	3.23	**	0.24
SD	1.52	1.54				1.56	1.93			
n	98	98				98	98			
School A6			7.04							
M	2.72	3.44		***	0.50	3.51	3.85	3.19	**	0.20
SD	1.22	1.62				1.71	1.69			
n	68	68				68	68			

****p*<.001. ***p*<.01. **p*<.05

There was some variation between schools in terms of mean scores. This was confirmed by a one-way ANOVA, which indicated a significant effect of school on mean score at every time point (see Table 30).

Table 30: One-way ANOVA by School – Means at Each Time Point (Cluster A)

	F (*p* value)	ES[1]
Pre-test 2007	8.37	0.06
(*df* = 5, 643)	(<0.01)	
Post-test 2007	15.33	0.11
(*df* = 5, 643)	(<0.01)	
Pre-test 2008	5.59	0.04
(*df* = 5, 643)	(<0.01)	
Post-test 2008	4.88	0.04
(*df* = 5, 643)	(<0.01)	

[1] The effect size reported in this table is partial eta squared.

A second ANOVA was performed on gain scores to assess whether there were any differences in gains between schools (see Table 31). There was a significant effect of school overall in Pre-test to Post-test 2007 gains. A post-hoc Scheffe analysis divided schools into two groups – the higher gain schools, which were School A6 and School A4, and the other schools, whose gains were still substantial but not quite as high as these two. There was no significant effect of school overall in Pre-test to Post-test 2008 gains, indicating that all schools made similar gains.

Previously, School A1 was selected as the high gain school. This was based on an analysis using pre-post students who were present from 2006 to 2007. As this analysis was based on different students, the results here are slightly different. Despite the fact that the Scheffe analysis did not identify School A1 as being the highest scoring school overall, the school did have the highest gains in 2008, indicating that it is indeed a school that continues to make large significant gains for its students.

Table 31: One-way ANOVA by School – Gains (Cluster A)

	F (*p* value)	ES[1]
Pre-test to Post-test 2007 (*df* = 5, 643)	9.03 (<0.01)	0.07
Pre-test to Post test 2008 (*df* = 5, 643)	0.46 (0.80)	0.00

[1.] The effect size reported in this table is partial eta squared.

3.2.2 Statistical modelling

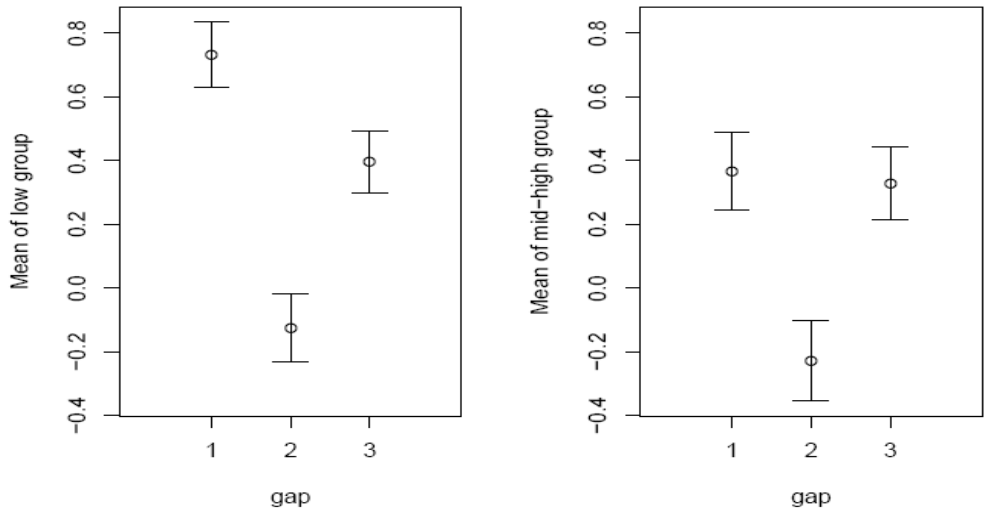
'Gap difference' models

The aim of the 'gap difference' model was to establish predictors of student reading achievement growth over the four tests across 2007 to 2008 where each pair of tests is a 'gap' to be analysed. Here, the results of the four repeated tests were used to calculate the three 'gap difference' observations on each student, i.e., change in stanine between the beginning and end of 2007 (gap 1), change in stanine over the Summer of 2007 to 2008 (gap 2), and the change in stanine between the beginning and end of 2008 (gap 3). Two models were developed; one based on the 'entire' dataset, which was based on the longitudinal sample of 715 Cluster A students who were in Years 4 to 8 at the beginning of 2007, as part of the preliminary analysis, and the other based on the 'genuinely complete cases' dataset.

The preliminary analysis based on the 'entire' dataset showed that school, ethnicity, the interaction of school and ethnicity ($F(45, 2070) = 1.60$, $p < 0.01$, Pillai's trace $V = 0.10$), and starting level of reading achievement were significant predictors of the 'gap differences'. In particular, starting achievement level was significant over and above the interaction of school and ethnicity ($F(3, 688) = 17.00$, $p < 0.001$, Pillai's trace $V = 0.07$). The starting achievement level factor was determined by the stanine score on the first test, at the beginning of 2007. Students were categorised into two groups; 'low' was assigned for a stanine less than or equal to 3, and 'mid-high' assigned otherwise. There were insufficient students in the stanine 7 - 9 bands to create a separate 'high starting stanine' group.

Figure 18 illustrates the difference in starting level, where the most prominent difference was that the low starting level group made a greater gain at the first gap (gain of about 0.7 stanine) than the mid-high starting level group (gain of slightly under 0.4 stanine; $t(714) = 4.47$, $p < 0.001$). The difference between the two groups, however, was not significant at the second and third gaps ($t(714) = 1.25$, $p = 0.21$, and $t(714) = 0.87$, $p = 0.38$, respectively). While the significance of school and ethnicity was fairly straightforward to interpret statistically, the interaction between ethnicity and school makes it hard to interpret in practical terms. There were perceptible differences in the patterns of achievement change between various school-ethnic group combinations. This means that the patterns of achievement gains or losses were not uniform across all six schools for any ethnic group. However, given the number of possible combinations (6 schools x 4 ethnic groups = 24 combinations), pairwise comparisons were impractical. Note that as the data were extremely unbalanced with respect to student cohorts, cohort was not considered as a predictor for the 'gap difference' models.

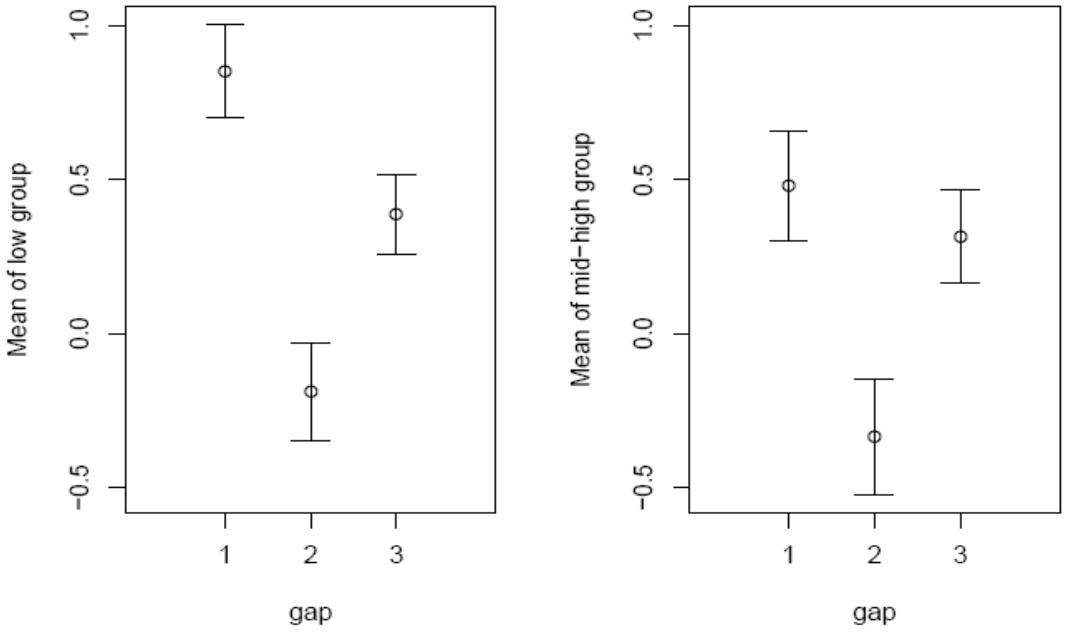
***Figure 18*: Mean stanine changes (with 95% confidence intervals) for the two starting levels at each time gap based on the 'entire' dataset (Cluster A).**



The 'gap difference' model that was based on the 'genuinely complete cases' dataset restricted attention to the effect of language, country of birth and time spent in New Zealand, and its association with the changes in reading achievement levels. In this reduced dataset (the 'genuinely complete cases' dataset was a subset of the 'complete' dataset), ethnicity was no longer a significant predictor ($F(9, 1041) = 0.89$, $p = 0.53$, Pillai's trace $V = 0.02$) while starting achievement level and the school factor remained significant ($F(3, 348) = 7.12$, $p < 0.001$, Pillai's trace $V = 0.06$). Amongst the information collected by the student survey, time lived in New Zealand and their combined effects with the school factor were significant predictors ($F(30, 1050) = 1.80$, $p < 0.01$, Pillai's trace $V = 0.15$). Time lived in New Zealand was a four level categorical factor, with students grouped into those who had lived in New Zealand for less than a year, between 1 and 5 years (inclusive), more than 5 years, or those born in New Zealand. No student, however, had lived in New Zealand for less than a year.

Figure 19 illustrates the difference in starting level, where the major difference was that on average, the low starting level group made greater gains in stanine at the first gap than their mid-high starting level peers ($t(379) = 3.10$, $p < 0.01$), but the gains (or losses) were similar at the second and the third gaps ($t(379) = 1.18$, $p = 0.24$, $t(379) = 0.70$, $p = 0.49$, respectively). The starting achievement level of students continued to account for a sizeable amount of variance. However, the interaction between how long a student had lived in New Zealand (i.e., the time lived in New Zealand factor) and school in practical terms was difficult to interpret as the patterns of achievement changed for different groups. In other words, the patterns of achievement were not uniform across all schools and student-to-student variability was again large.

Figure 19: **Mean stanine changes (with 95% confidence intervals) for the two starting levels at each time gap based on the 'genuinely complete cases' dataset (Cluster A).**



Across the two 'gap difference' models, no evidence of a language effect, country of birth effect, or gender effect was found (test statistics for the 'genuinely complete cases' dataset: home language, $F(6, 694) = 0.35$, $p = 0.91$, Pillai's trace $V = 0.006$; first language, $F(9, 1041) = 0.59$, $p = 0.81$, Pillai's trace $V = 0.02$; country of birth, $F(6, 694) = 0.80$, $p = 0.57$, Pillai's trace $V = 0.01$; gender, $F(3, 347) = 1.37$, $p = 0.25$, Pillai's trace $V = 0.01$). There was a starting achievement level effect for both the 'entire' and the 'genuinely complete cases' data sets; that was the clearest and most easily described phenomenon observed. There was an ethnicity by school interaction for the 'entire' dataset, and a time lived in New Zealand by school interaction for the 'genuinely complete cases' dataset. The nature of these interactions, however, appeared to be too complicated to be amenable to any simple description. With respect to the starting level effect, this effect was largely driven by the fact that the low starting level students made significantly larger gains at the first gap, the beginning to end of 2007. At the latter two gaps there were no significant differences between the two starting achievement groups as illustrated by Figure 18 and Figure 19. Higher and lower starting students made similar drops in achievement over the summer holidays, and gained at similar rates during the academic year of 2008. In 2008, low starting level students made lower gains than in 2007.

This suggests that instruction initially may have been more effective for low starting level students in 2007, but after an initial larger effect and when students are at higher levels, the rate of gain evens out. Further study would be useful to tease out if low starting level students were recent arrivals to the school or their starting levels were artificially low due to transition effects.

'Level difference' models

The 'level difference' models aimed at investigating whether the schools varied in their mean reading achievement stanines across the four tests. Subsequently, the 'level difference' models aimed to answer the question of whether the strength of association between reading achievement and measurable student information was similar across schools. Measurable student information included variables such as ethnicity, gender, students' language usage (home language and first language) and time spent in New Zealand. Given

that the interest here was mainly around the association between the available predictors and the schools, two models were developed and compared. The first 'level difference' model treated school as a fixed effect, and the explanatory power of the factor 'school' was limited to the dataset. The second 'level difference' model then treated school as a random effect to encompass the notion that the six schools were a random selection of all schools.

There were two variants of language usage: first language and home language. Through the model selection process, the results showed that home language contained more explanatory power than first language, and therefore, home language was used as the choice of language variant in both models.

Table 32 contains a summary of the estimated coefficients for the first 'level difference' model where school was modelled as a fixed effect. The mean stanine of those that spoke only a Pasifika language at home were estimated to be 0.41 of a stanine less than those that spoke English at home. Those that spoke two or more languages (i.e., both Pasifika language and English) at home were estimated to be 0.58 of a stanine less than those that only spoke English at home. The differences between different home language usages in mean stanines in each cohort are illustrated by Figure 20. The figure also illustrated a downward trend in achievement where older cohorts achieved lower stanine scores. Note that Figure 20 does not represent a single cohort tracked longitudinally from Year 4 to Year 9. The figure presents cohorts and their means over two years.

There are two interesting features in these data that require further analyses. The first is that differences between home language groups are minimal at some time points, especially at higher ages. This finding from mixed longitudinal and cross sectional data here is consistent with data from the case studies. Secondly, the largest difference occurs in the cohort progressing from Year 6 to Year 7. The effect of having a 'stronger' English background may be felt especially when the length and nature of the STAR test changes at Year 7.

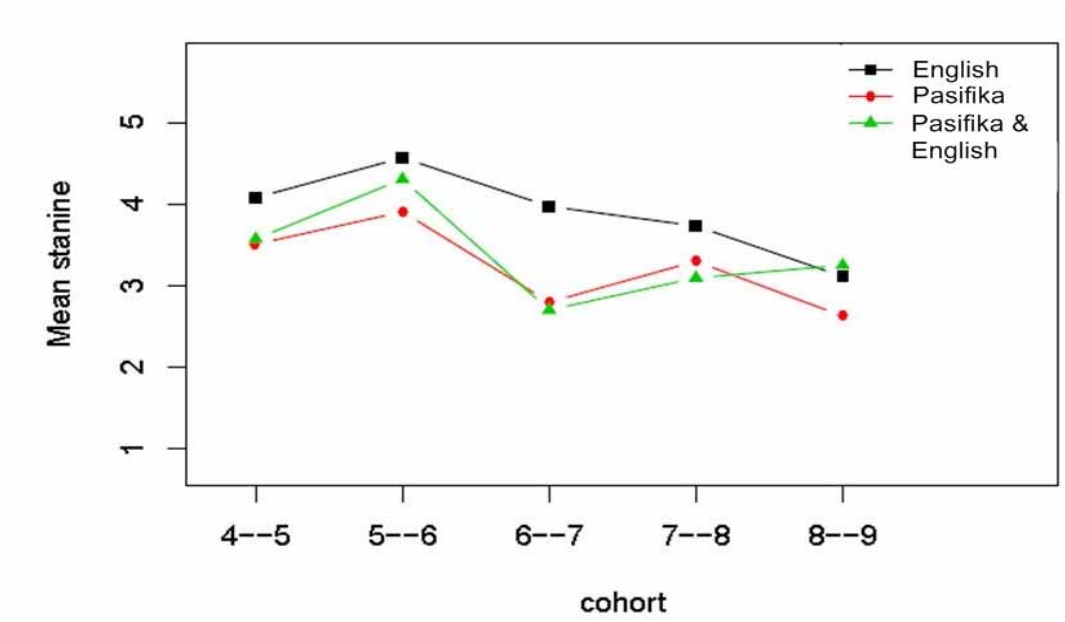
Table 32: Estimation of Fixed Effects of the 'Level Difference' Model (School Modelled as a Fixed Effect) (Cluster A)

Fixed Effect	Coefficient	*SE*	*t*	*p*
Intercept[1]	2.98	0.33	8.99	< .001
Home language				
Pasifika language	-0.41	0.16	-2.62	<.01
Two or more languages	-0.58	0.25	-2.30	0.02
Gender - female	0.51	0.14	3.68	<.001
Time lived in NZ				
More than 5 years	1.02	0.28	3.70	<.001
Born in NZ	0.88	0.24	3.60	<.001
School[2]	-	-		

[1] Intercept represents the baseline of male students that speak English at home and had lived in NZ between 1 and 5 years from the baseline school.

[2] School (n = 6 schools; $F(5, 361) = 3.68$, $p < 0.01$) estimates not reported here for anonymity.

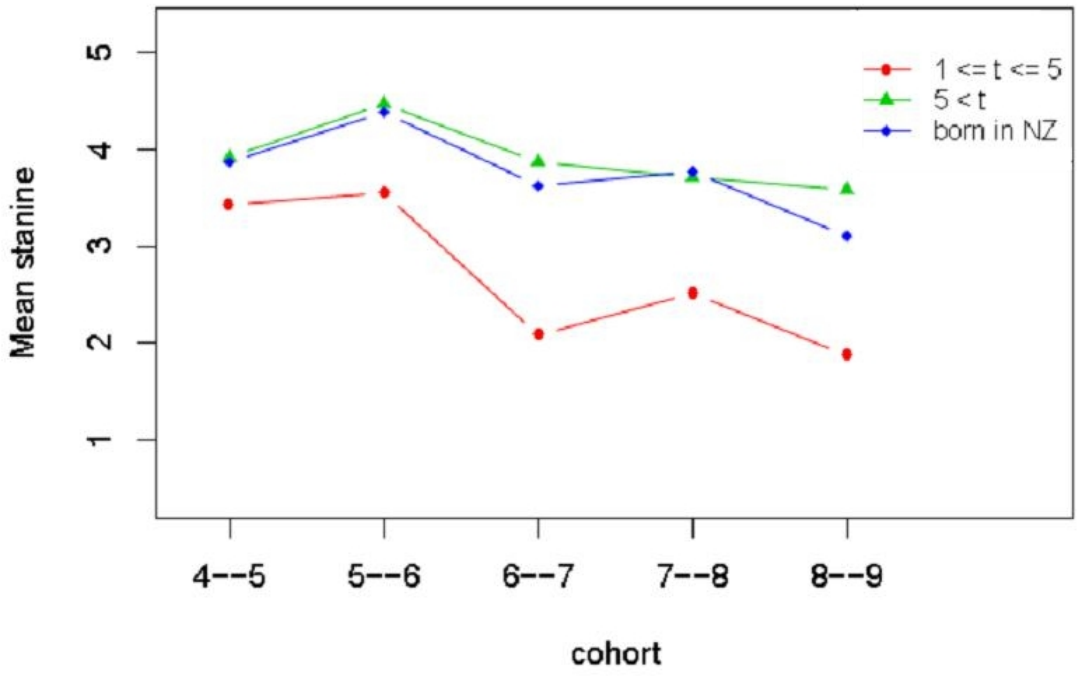
***Figure 20*: Cohorts' overall mean stanine levels across the four tests by home language for the 'complete' dataset (Cluster A).**



With all other factors held constant, students that had lived in New Zealand for more than five years were on average, achieving 1.02 stanine higher than those that had lived in New Zealand between one and five years (i.e., basis of comparison); students that were born in New Zealand achieved an average of 0.88 of a stanine higher than the group of students that was used as the basis of comparison in the model (see Table 32). Figure 21 displays the mean stanines of each cohort split by the groups of time lived in New Zealand. Ethnicity was not a significant predictor ($F(3, 358) = 1.71$, $p = 0.16$) in a model that already included the stated predictors. Note that students that had lived in New Zealand for more than five years had all or the majority of their schooling in New Zealand, similar to those that were born in New Zealand.

There were significant differences amongst the schools ($t(361) = 4.69$, $p < 0.001$). For example, the largest estimated mean stanine difference was 0.82 stanine ($SE = 0.18$). This was consistent with the one-way ANOVA results that tested for significant differences between schools' mean scores at each time point (see Section 3.2.1).

***Figure 21*: Cohorts' overall mean stanines across the four tests by time lived in New Zealand for the 'complete' dataset. Note 't' represents years lived in New Zealand (Cluster A).**



The large drop at Year 6 to Year 7 mirrors the drop found for home language and may reflect similar reasons. However, these mixed cross sectional and longitudinal data suggest an exacerbated effect when relative unfamiliarity with the New Zealand schooling system is considered.

The second 'level difference' model included school as a random effect in an HLM. The model estimated that, with all else held constant, those that spoke only Pasifika languages at home scored 0.42 (*SE* = 0.16) of a stanine less than those that spoke English at home. Those that spoke both Pasifika language and English at home scored 0.58 (*SE* = 0.25) of a stanine less than those that spoke English. On average, female students scored 0.51 of a stanine (*SE* = 0.14) higher than their male peers. Students that had lived in New Zealand for more than five years were on average, achieving 1.04 stanine (*SE* = 0.27) higher than those that had lived in New Zealand between one and five years (i.e., baseline), and students that were born in New Zealand achieved an average of 0.90 stanine (*SE* = 0.24) higher than the group of students used as base comparison. These estimated coefficients and results of the second 'level difference' model were consistent with the first 'level difference' model (see Table 33).

Table 33: Estimation of Fixed Effects of the 'Level Difference' Model (School Modelled as a Random Effect) (Cluster A)

Fixed Effect	Coefficient	SE	t	p
Intercept[1]	2.81	0.27	10.39	<.001
Home language				
Pasifika language	-0.42	0.16	-2.69	<.001
Bilingual (Pasific and English)	-0.58	0.25	-2.27	<.001
Gender - female	0.51	0.14	3.66	<.001
Time lived in NZ				
More than 5 years	1.04	0.28	3.75	<.001
Born in NZ	0.90	0.25	3.68	<.001

1. Intercept represents the baseline of male students that speak English at home and lived in NZ between 1 and 5 years from the baseline school.

Overall, the mean scores for the students that spoke only Pasifika languages and both Pasifika and English languages at home were significantly lower than that for the English-speaking students. The mean scores for females were significantly higher than that for males. With respect to the length of time lived in New Zealand, the mean scores for those that had lived in New Zealand for more than five years and those that were born in New Zealand were significantly higher than those that had lived in New Zealand between one and five years.

The treatments of school effect presented no change to the coefficient estimates of the two 'level difference' models; the difference in treatments of the school factor between the two 'level difference' models therefore made no substantial difference in how we are interpreting our model results.

'Level Difference' Model with Cohort as Predictor

Cohort differences were not considered in the previous two 'level difference' models, as the combination of school and cohort presented theoretical and practical difficulties (e.g., modelling with unbalanced numbers of students). As an extension to the two 'level difference' models, the cohort predictor was brought in for a series of extended analyses of the 'level difference' model. The aim was mainly to look for an expected phenomenon of students who speak languages other than English (using both first language and home language) closing the achievement gap on English speaking students as their year level increases (i.e., the expected 'catch-up' pattern). However, a simple 'catch-up' pattern did not appear. The cohort effect was not linear in time, which means students' mean stanines did not increase at a constant rate as their year level increased. The other result that could be conjectured from these extended analyses was that the differences in cohorts amongst the schools constituted a large part of the explanation for the between school differences.

Summary of the modelling results

Students' starting level of achievement was the most prominent and readily interpretable effect for all the 'gap difference' models (i.e., the models which examined the amount of gain made within each academic year and between academic years). Students with lower starting levels (stanines 1 - 3) made greater gains than students with middle to higher starting achievement levels (stanines 4 - 9) from the beginning to end of 2007, but the two starting level groups made similar drops over the summer break (end of 2007 and beginning of 2008) and within year gains from the beginning and end of 2008. The higher and lower starting students made similar drops in achievement over the summer holidays, and gained at similar rates during the academic year of 2008. In 2008, low starting level students made lower gains than in 2007. The results may indicate that instruction initially may have been more effective for low starting level students in 2007.

Discussions with the cluster leader indicated that the cluster placed far less emphasis on reading in 2008 than 2007, and that the imbalance in instructional focus was being addressed in 2009.

Another possible explanation is that there might be stronger effects for low achieving students initially, but that after the initial effects different groups may respond at similar rates. This has important implications for judging effectiveness (which needs to be over the longer term and to look at different groups). The initial higher gain may be as much due to regression effect as it is to more explicit and targeted instruction having an immediate impact.

There was an ethnicity by school interaction for the 'entire' dataset, and a time lived in New Zealand by school interaction for the 'genuinely complete cases' dataset. This effect was largely driven by the fact that the low starting level students made significantly larger gains in 2007. Interpretation of these two interaction effects, however, turned out to be too complicated. There were no gender or language (whether language used at home or first language) effects on the achievement gains. In other words, males and females, and students who spoke different languages made similar gains throughout the three 'gaps' examined.

For the 'level difference' models where we examined the achievement levels aggregated across four tests, the four main effects, gender, time lived in New Zealand, home language, and school turned out to be optimal in estimating the mean stanine level over the four tests. In other words, these factors were associated with significantly different levels of achievement. Overall, the mean scores for the students that spoke mainly Pasifika languages and those that spoke two or more languages (Pasifika language as well as English) were significantly lower than that for the mainly English-speaking students. The finding likely reflects collapsing across year levels and there is evidence for the case study schools that differences can disappear when achievement levels are considered over school years. The mean scores for females were significantly higher than that for males. With respect to the length of time lived in New Zealand, the mean scores for those that had lived in New Zealand for more than five years and those that were born in New Zealand were significantly higher than those that had lived in New Zealand between one and five years. The mean levels of achievement differed significantly between schools, and part of this difference could be due to the different year levels (i.e., cohorts) that the schools catered for.

3.3 Phase Three Results – Four Case Study Schools

This section seeks to answer Research Questions 2 - 4 with more depth:

1. What differences, if any, occur between the gains in the Schooling Improvement initiatives for different student groups within Pasifika (ethnicity, gender, generation in New Zealand, language)?

2. What are the practices in schools and initiatives that work, and the practices that do not work, for Pasifika students and under what conditions?

3. What are the barriers to schools achieving positive learning outcomes for Pasifika students?

3.3.1 Focus Cluster School: Case Study 1

Overview of the school

This is a medium performing decile 1 primary school when considered in terms of gains and levels of achievement for Pasifika students (see Table 34). Overall achievement when considered at the school was medium, with levels across time between stanine 3 and 4 in reading comprehension, and in general the Pasifika students consistently made higher than nationally expected gains within years. Within the different Pasifika groups there were differences in achievement when tracked longitudinally over two years.

The total Pasifika group at the school overall is around 80%. The breakdown for the Years 4 - 8 groups we examined was Samoan 37%, Tongan 29%, Cook Island Māori 21% Niuean 12% and Other Pasifika 1%. More than half (57%) of these students had English as first language, with Samoan being the next most common other first language (20%). Of the total Pasifika group more than two thirds (73%) of students were born in New Zealand.

Table 34: Mean Stanines by Ethnicity for Case Study 1 Years 4 - 8 Pasifika Students

						School Year[1] (2007)			Summer[2] (2007 - 2008)			School Year (2008)		
		Pre-test 2007	Post-test 2007	Pre-test 2008	Post-test 2008	*t*		ES	*t*		ES	*t*		ES
Tongan	*M*	3.19	3.55	3.62	3.85	2.41	*	0.25	0.36		0.04	1.80		0.16
	SD	1.41	1.53	1.45	1.40									
	N	47	47	47	47									
Cook Island Māori	*M*	3.09	3.57	3.54	3.86	2.50	*	0.31	-0.15		-0.02	1.93		0.17
	SD	1.46	1.65	1.88	1.82									
	N	35	35	35	35									
Samoan	*M*	3.25	3.90	3.58	4.20	5.60	***	0.47	-2.12	*	-0.23	4.98	***	0.42
	SD	1.36	1.43	1.33	1.61									
	N	60	60	60	60									
Other Pasifika	*M*	3.67	4.14	3.33	4.05	2.22	*	0.26	-2.88	**	-0.47	3.63	**	0.44
	SD	1.74	1.88	1.56	1.69									
	N	21	21	21	21									
Total	*M*	3.25	3.76	3.55	4.01	6.49	***	0.34	-2.19	*	-0.14	6.14	***	0.29
	SD	1.45	1.57	1.52	1.60									
	N	163	163	163	163									

[1] School Year uses Pre-test to Post-test scores.

[2] Summer uses Post-test and the following year's Pre-test scores, e.g., Post-test 2007 - Pre-test 2008.

Connectedness – community and school

The theoretical prediction was that an effective school would have well-developed connections with communities and families. The connections would be reciprocal, that is, two way with considerable flow of information both ways. In addition, general models of parent 'involvement' identify a range of types of involvement, from volunteering, participating in decision making, and communicating with the school, to active academic support including involvement with homework at home, with some forms likely to be more effective than other forms.

In this school more active roles for parents were still being formulated and the evidence from the interviews was that the school promotion of roles had not been focused on specific involvement at home in academic support. There were some initiatives to develop involvement at school to facilitate the conditions of learning with a recognition that practices had mostly been one way but strategies were being put in place to create more two way systems.

The Principal indicated that parental involvement was an area that still needed work. He commented that a large group of parents did not get involved, thinking that it was the school's job. The Literacy Leader noted that attendance at meetings fluctuates but that that they get a good turnout for parent interviews, with 90% of the parents attending.

> *We are still doing a lot of work around developing those links and trying to maximise those to help the kids.* [Principal]

The Principal however did not want to use the 'community' as an excuse for not getting even higher levels of achievement and didn't want the teachers distracted by a focus on the community from being learning-centred at school. This was echoed by the Literacy Leader who felt that the primary role for parents would be to get children to school.

> *Getting the kids to school, getting the kids to be present when they are at school, getting them here on time and making sure they've got their equipment; as long as they do that, that's all we can ask. You don't have that control over homework and things. There's lots of families that have issues around homework, either they don't understand it or they want more, or they think there's too much and that's no different to any other school.* [Literacy Leader]

Several strategies to increase the conditions for learning had been developed and were being monitored. The Literacy Leader noted a community initiative was that they had organised breakfasts, and they provide lunches and tried diet control with fruit in an attempt *"to make kids comfortable and well fed, (to enable) the best learning conditions possible".* Another was a change in interview structure which was solely focused on learning (not behaviour problems) and where the child was included in the discussion. Since 2006 they had used the Home School Partnership initiative to promote talking with parents. Using this model they had realised that the information flow was typically one way.

> *On the one hand we were saying, we want to share with you and talk with you and invite you into the school, and then in practice what we were doing was, yeah come and sit down and I'm going to tell you what happens and when I'm finished speaking you can go home and sort it out.* [Principal]

Given this realisation from the Home School Partnership model, school meetings with parents are now run by a group of teachers and parents who have a shared role. Discussion groups based on ethnicity are formed

and the discussion is shaped by a set of questions. The Literacy Leader commented that some really good ideas have come from this change.

The school is planning new initiatives. A new development is a group of parents who are to review how the school reports to parents. The review is to enable the school to evaluate how effective the current system is, although the Literacy Leader commented that there was little interest indicated from a survey so far. They send portfolios home and even previews (although it has turned into something of a "showcase" of finished copies). Another plan is to use the inquiry projects that groups of teachers run and present at the cluster conference as a basis for a discussion evening with parents. Yet another was to run workshops with parents during a whole day on the new curriculum.

The school did employ teacher aides who run adjunct programmes for children who might be struggling. It was not clear whether these were from the local community but they weren't identified as part of the connection with the community. The evidence was that the school had viewed parent involvement primarily as motivational and as situated at home, but was moving to increase involvement at school and reciprocity.

Parents' views

The concerns about parent involvement and participation and how the school is beginning to address these concerns highlighted by the Principal are also partly echoed by parents of the school. The talanoa with parents showed that they had high aspirations for their children's education. Their beliefs about the school are positive and they see the school as 'experts' in their field. One parent puts it this way:

> ...O se kaimi muamua fo'i lea ua faia ai se kalakalagoaga aua o lea e kuu aku lava e makua fagau i a'oga aua e kele e iga aumai lakou homework...e moi foi a kake fesoasoagi fo'i lea ae pei lava o le mamafa lava e kuu lava i susuga a faiaoga ma a'oga i le a'oa'oina o fanau ma alo a le kakou atunuu. Pei lava o makua ia ga o siga fesoasoagi lava ae pei o le mamafa kele lava e pau lava lea i faiaoga ma le aoga i lea kausaga ma lea kausaga ile aoaoga o fagau.
>
> [Translation] *This is the first time a talanoa has happened because parents let the children attend school and they bring homework… it is also true that I help [with homework] but the weight [of responsibility] is left to the teachers and the school to teach our children. It's like parents could support a little but the major work to teach our children is the school's and teachers' year in year out.* [Samoan Parent]

However, there are certain areas, according to parents, where suggested improvements could be made. These areas were noted to be in reporting, assessment and support. In the reporting area, whether school reporting, parent interview reporting or face-to-face parent-teacher reporting, parents felt that the school had not been explicit in how they fed back the information about the achievement of their children. For example, one parent with six small children believed that the school should be frequently reporting back to parents instead of her waiting for the end of year report or when her child 'gets naughty'. She thought that if her child was not achieving during the year, the end of the year report would arrive too late to allow her to provide support. She stated:

> *… I'd like to hear more from the teacher [during the year] other than just the parent interview. And if I can't make it to that then I'd still like to get some feedback to see how she is going or any of my children. Yeah, but just to say that if there is anything that she is falling behind on within that you know then I can help her with, I suppose you only ever hear from a teacher when your child is naughty eh?* [Cook Island Parent]

At the parent interviews, teachers discussed with parents how 'good' or how helpful the student is to others and the teachers, or the sports in which their child has been involved, but they never discussed the child's achievement. One parent conveyed the issue this way:

> E kalagoa mai a le faia'oga 'o lae lelei lau kama. E fa'alogo foi. Soo se mea foi e fai aku ai e fai. E kele a iga fesoasoagi ae maise a le kamaikiki lea o [child's name]...e kele a iga fesoasoagi Reg i isi kamaikiki. E kele foi a ina help i faiaoga i mea kau kaaloga ma mea fa'apena. ...Po o le a kogu lava le mea la e vaivai ai [her child] ... e leai se okooko mai ole mea kogu la e vaivai ai...poo le a le makaupu, pau a le mea o la e alright uma mea uma...
>
> [Translation] *Teachers say to me that everything is alright with my child. He listens too. I hear too that he does everything he's asked to do. He helps other children most of the time and helps other teachers with sports and the like. [But in terms of] the exact academic weakness [her child] there is no specific identification of that or in what subject… only that everything is alright.* [Samoan Parent]

Another parent commented on the need to see daily homework from school for his children. But what he wanted was examples and clear instructions on how to carry out homework. He claimed that reading Duffy books and the Bible also helped. However, when children had difficulty, the parent's sister-in-law who is a lawyer then helped the children instead. When told that his child's dream was to be 'just like Daniel Carter and a playmaker' he laughed and pointed out:

> *It's good … but whether sports, you still need a good brain.* [Niuean Parent]

One caregiver, a Tongan grandmother, thought the informal face to face reporting was good because the teacher was of the same ethnicity and she could understand what the teacher was saying. The grandmother explained that she got feedback from a Tongan teacher in the Tongan language which led to greater understanding of the progress being made by her grandchild at school.

The parents clearly had ideas about how they could contribute. When asked what the school could do to improve the achievement of their children, one parent suggested that the school should be looking into creating opportunities for children to compete academically.

> O le isi mea e tatau ona fai i totonu o a'oga, e tatau ona fai 'comptetition' fo'i ia e aoga e tauva ai le tamaititi. E le fa'apea e compete fo'i lea, e leai aua o la e laiti. A alu fo'i la le tamaititi i le taeao i le a'oga, o la e tinou e fa'apea, 'oute alu atu loa fai loa le...' tai pei o mea fo'i e fai e tatou i Samoa fa'apea o le 'spelling' aua e iai tamaiti Māori, Samoa ma isi e leiloa sipela se upu ae lelei ituaiga polokalame na e tu'u atu se taimi fo'i lea i syndicate ma year levels eseese e ... pe fai fo'i le Maths competition fa'apea fa'aopoopo, fa'atele, ...e fiafia fo'i tamaiti e su'esu'e ma a'o mea aua o la e ua fiafia ... pei lava o le potopoto fo'i lea o le a fai se fiafia e fa'apena fo'i lo latou fiafia o le a fai le competition. Pei lava o le competition fo'i lea o le a mua la latou House fa'apea year 4 year 5 year 6 fa'apea 'o lea o le a fai le tou spelling is tu'u i ai le sekone i le tamaititi e spell mai tle upu ...pei la e usu atu le tamaititi i le a'oga fa'apea o le a fai le competition a ia e tauloto atu lava le sipeli i le fale e o'o lava i le a'oga...a o la e ua look forward uma i ai.
>
> [Translation] *One thing the school must implement is the establishment of academic competition where children could be motivated to learn. Not in the true sense of competition because they are young. But when children go to school in the morning aware that there will be a*

> *competition they will say, 'I am going to study really hard' something like that … just like how we did in Samoa, because there are Māori, Samoan and other children who cannot spell and those programmes would be useful for different syndicates or different year level competitions …or it could be Maths [competition] such as 'addition' and 'multiplication'. Children would be happy to learn to do well – and just as they are happy to get together for a cultural 'fiafia' they will also be happy to get together for an 'academic' competition or a House competition…because they all look forward to it.* [Samoan Parent]

Parents had designed practices at home to support school achievement. One parent did not allow his children to watch television all week except Friday to Sunday. Similarly, the children had limited access to the internet and parents made sure to check on children's homework and what they were doing.

> O le lagolago lava lena a faia'oga e una'i e faitau tusi. O le tele lava o taimi e fai mai faia'oga e lelei tele le faitau ma e toa'ga pea e faitau tusi ina ia tumau ai. [Samoan Parent]
>
> [Translation] *Teacher support to me has been 'keep pushing her to read'. Most of the time the teacher says she [his child] reads well, so push her to read and continue to read to sustain her reading.* [Samoan Parent]

Other forms of teacher support occurred through the advice they gave to parents. One suggestion was for parents to tell the child to be selective in whom they choose to be around. One parent stated:

> O le isi la support a faia'oga o le fai mai lea e fai i le fanau e pipi'i i le tamaititi e lelei ae aua le alu i le tamaititi e le faia ai se mea a'oga.
>
> [Translation] *The other support teachers give is they say, 'tell your child to associate with good children and not to be around children who don't do homework.* [Samoan Parent]

One parent believed that it is the balance between school and home support that is most important and it is that which results in achievement. From her observations of her child's academic development, she concluded that her child's love of school and her teacher coupled with the family support had resulted in the child's high academic achievement. In that sense, her child's academic needs were met at school. She explained:

> *I know the teacher was very good. She liked the teacher. O le fiafia ia i le a'oga. A kuu la i lau fesili lea ga e fai mai e uiga I le support a…poo le support a makua poo le aoga* [She loves school. If I have to respond to your question about support …albeit parent or school] *I'm pretty sure its both. Aua aga fa'apea e lelei le support a makua ae fa'alekogu le a'oga ia kailo. A fa'apea foi la e lelei le a'oga ae leaga le support a makua ia e fa'apega lava. Ae ou ke iloaiga lava …* [Because if there was good support from parents and the school support was not [good], I don't know. Just as if the school support was and parents' was not, well it would be like that. But I know…] *I know her needs were catered for.*

Inquiry processes and collective efficacy

It was predicted that effective schools would have robust and well-developed inquiry processes operating. Recent research both locally and internationally has implicated collaborative inquiry processes in improved outcomes for students, particularly for students in low socio-economic communities which are culturally and linguistically diverse (e.g., Lai, McNaughton, Amituanai-Toloa et al., 2009; McNaughton & Lai, 2009; Taylor et al., 2005; Timperley et al., 2007). Several of these interventions where inquiry processes have been

central show improvement for their predominantly Pasifika student population with gains of up to one year in addition to expected national progress (Lai, McNaughton, Amituanai-Toloa et al., 2009). Professional learning communities are implicated in these interventions as the inquiry is often collaborative between teachers, researchers and other key stakeholders. A strong inquiry process is associated with a strong sense of efficacy held within the professional learning community.

The Principal and Literacy Leader described a school professional learning community that was very well versed in inquiry learning and which had as its basis a strong evidence base for the processes in place influencing achievement. Evidence for this collective efficacy came from detailed descriptions of how achievement evidence was used and how teams in the school were engaged in inquiry into the effectiveness of their practices. The senior team knew in great detail patterns of achievement over several years and could identify cohorts and individual classroom variations.

> *The data show that [the inquiry / learning focused approach] is helping, 8 odd years ago there was a target set to get 70% of our kids at or above, and last year we managed to get 2 of our year groups there. We're still not at target, we still haven't quite reached it but we've come a long way to get it….the data has gone up and down. Like 2006 we actually dropped right down.* [Principal]

There was evidence from the descriptions of coherence across the school in the inquiry processes. From the junior team that had a focus on assessment through to the senior team there was both a general collective analysis and use of achievement data as well as specific projects which systematically gathered classroom data including data on instruction.

> *Looking to see whether or not, where the shifts have been made and for some of them and some of theories that the teachers and students have come up with, have worked really, really well, and some of them not so well. We are currently doing projects at the moment, same inquiry type thing and as part of filling the gaps we try and get them to find an alternative initiative or strategy that's got some research backing behind it so that we can actually see how wherever that comes from, how their research went against teaching in the class.* [Principal]

The deliberate maintenance of the professional learning community and its focus on inquiry was apparent in the commitment to induction of new staff. A very detailed plan including guided involvement in analysing classroom data was part of the induction.

> *We have cluster wide induction. A lot of it is around analysing the data… it doesn't matter whether you are a beginning teacher or an experienced teacher… then our, they used to be called staff meetings, we now call them professional discussion forums – PDFs - also centre on building that, that kind of pastoral side or it but there's also getting the classroom culture and the learning culture going… Then new teacher have their release, senior teachers are released as whole day a week to work with teacher and tutor teachers also get release time.* [Literacy Leader]

Quality instruction that is culturally responsive

Our theoretical view outlined in the review section was that in effective schools there would be evidence for what the literature suggests is generically high quality instruction. But we also had the view that a generic feature of high quality instruction would be that it was culturally responsive. That is, distinctively effective 'Pasifika pedagogical styles' would reflect the generic need to have culturally responsive features in

instruction. In the case of Pasifika students, like Māori students, that would be reflected not only in a deliberate use of background knowledge and styles of interacting, but also in mutual respect and positive relationships held by the Principal and Literacy Leader.

As in the other primary case study school, part of the view was that the pedagogy was not specifically Pasifika-focused. It was a more generically effective pedagogy focused on individualised instruction which had been tailored for Pasifika students.

> *What we've found is that there's not so much an individual programme that is a Pasifika type programme but it's more looking at pedagogy and the practice and taking or having an understanding of how we take that information or that knowledge from the teachers and get them to use it best with Pasifika children…rather than looking at ethnic-based type initiatives…we've gone from a different point of view…looked more at learning…every child no matter what ethnicity ..are all learners …we treat everyone as a learner…and design the learning to fill those gaps.* [Principal]

Nevertheless the Team were very aware that there were important differences within the general label Pasifika and were wary of a general approach. The Principal was strongly of the view that they were not trying to use what would be deficit thinking about the backgrounds, and what he described as the "baggage that the kids might bring from outside". The Literacy Leader held this generic view too but again implied that this meant it had a Pasifika focus.

> *The majority of the children…are Pacific Island so everything has to be about Pacific Island children because that's our community. It's all about good teaching, effective teaching.* [Literacy Leader]

The observations in the classroom showed a marked difference between the two teachers. Of the two teachers observed, one had a relatively high total score (T1 = 84.5%) and the second teacher had the lowest total score (T2 = 58.3%). The percentages averaged for the three lessons are shown in Table 35.

Table 35: Mean Observation Percentage for Focus Teachers at Case Study 1

	Classroom Features %	Instructional Dimensions %					Cultural Responsiveness %
		Talk	Knowledge	Strategy	Vocab	Feedback	
T 1	94.4	88	73.3	66.7	75	83.3	100
T 2	58.3	55.6	61.1	55.6	60.0	33.3	66.7

As noted in the overall results for the classroom instruction (Section 6), the scores are not very good indicators of specific gains in specific classrooms, even over three lessons. Across the schools the ratings of the instruction appear to be associated with the overall levels of the schools' achievement and the gain over the most recent year, 2008. The overall score for the two teachers in this school was moderate (71%) and this school had moderate overall levels of achievement in 2008 (between stanine 3.4 and 4.1). It made a large above expectation gain in 2008 (M = 0.64 stanine).

Table 36: Mean Stanine for Focus Classes and School at Case Study 1

Teacher	Total %	Mean %	Class Achievement[1]			School Achievement[3]							
			n	Pre-test 2008	Post-test 2008	*n*	Pre-test 2007	Post-test 2007	Gain	*n*	Pre-test 2008	Post-test 2008	Gain
T1 (Y5-6)	84.5		22	3.37	3.47								
T2 (Y5-6)	58.3		19	4.18	4.32								
T1, T2		71.4											
School						318	3.34	3.92	0.58	403	3.44	4.08	Above[2] 0.64

[1] STAR mean stanine.

[2] Above expected gains (EG = 0).

[3] STAR mean stanine.

The transcripts for both these teachers have elements of 'best practice' instruction. The dimension of Cultural Responsiveness was strongly present in T1's classroom as recorded by the observers (*M* = 100%). In part this was made possible by the selection and use of particular texts or tasks for instruction. He drew on familiar artifacts (e.g., a Kiwiana theme for descriptive writing involved an 'L & P' bottle) and experiences (e.g., a word finding task included Niuean referents such as "Niue is a small…") to activate and build vocabulary, background knowledge and thematic understandings in both descriptive writing and reading comprehension. The observer notes include comments on how warm and positive the class atmosphere was. There was a lot of humour but very explicit expressions of respect and clear rules. It was noted that this teacher (a Pasifika teacher) required children's shoes to be off while inside and they were neatly placed at the back of the room. The observer notes also identify high engagement. Teacher 1 was very accepting but not at the cost of being uncritically affirming. However, achievement levels for his classroom were no higher than T2, and the rate of gain in the years was similar to T2's classroom. T2 was particularly low on the dimension of feedback primarily because of low overall rates and a preponderance of instances of non-descriptive affirmation ("good").

The students' views about teachers and their instruction

Thoughts about the teacher

Teacher instruction and practices were supported by students' comments. There was a sense of being affirmed and being respected in positive relationships. When asked what they thought about school, almost all students commented on how 'fun' school was because of the new learning, which motivated them to fulfil their dreams. For example:

> *[school] it's … fun when you learn.* [Year 5 Student]
>
> *I feel that it's really good. My mum believes that I can get better and she believes that I can reach my goals if I go to school and it's much easier if I come to school because then … she wants me to get a good job and yeah…* [Year 6 Student]
>
> *It's cool … cool teachers.* [Year 5 Student]

With regards to the teaching, one student particularly was explicit about why she liked her teacher. She states:

> *…[my teacher] believes in me because he knows that I can get better in any … every subject…um …helping me if I'm like …if I have trouble understanding something, he'll just come and help me.* [Year 6 Student]

When the same student was asked whether there was anything she would like the school to do more of to help her learn, she replied:

> *No. It's [the school] done a lot. I'm already smart.*

Another student liked her teacher because of the clarity of teacher instructions on the mat before they do a task.

> *Before we do something, we always get it explained to us on the mat and stuff…*

However, she also wanted the school to "do more stuff that we often do". In this sense, the student's preference is for academic work that is more challenging than what she currently gets.

One student, however, did not share what most of the students said. Although she believed the school was 'a cool school' she observed that students in the school are somehow treated differentially to others resulting in everyone not being equal:

> *But sometimes some students get treated more than other students…um…special treatment and we don't get equal…like if you ask questions and things, it won't be answered straight away and …things like that.* [Year 6 Student]

Pasifika learners

The theoretical and empirical review provides a basis for assuming that the students themselves are sources of variance in achievement. That is, attributes of the students including their own beliefs and values as well as cultural and linguistic resources would contribute to effective learning and instruction. Given the limited amount of evidence however, our predictions were deliberately open-ended. We argued on the basis of the literature that there may very well be features of the Pasifika learners such as their language status that would be associated with achievement.

Language features

In the general analysis in one Focus Cluster (with Years 4 - 9) and when looking at gap differences we found that language, whether first language or language at home, was not associated with achievement. However, when looking at level differences (that is, differences in overall level achievement), we found that there were four main effects - gender, time lived in New Zealand, home language, and school - that were associated with significantly different levels of achievement. Overall, the mean scores for students that spoke mainly Pasifika languages at home and those that spoke two or more languages (Pasifika language as well as English) at home were significantly lower than that for the mainly English-speaking students. The general analysis results are reported in Section 3.2.2.

Language features and their relationship with achievement were examined in both the overall 2008 cohort of students as well as a smaller two-year longitudinal cohort from 2007 to 2008. The former consisted of students from Years 4 - 8 who had achievement scores from both the beginning and end of 2008 (n = 150). The latter consisted of students in Years 4 - 7 in 2007 and Years 5 - 8 in 2008 and present for both Pre-test

and Post-test in 2007, and Pre-test and Post-test in 2008 (n = 91). These are small sample sizes and these analyses should be read as indicative and interpreted with considerable caution.

Unlike the general analysis there was no positive relationship between having English as a first language and higher achievement (see Table 37). Unlike the general analysis there was a relationship between having both a Pasifika language and English spoken at home and level and gain over a year (see Table 38). However, given the very small numbers these patterns are difficult to interpret.

Table 37: Mean Stanines by First Language Spoken (Case Study 1)

First language spoken[1]		2008		
		Pre-test	Post-test	Stanine Gain
English Only				
	M	3.71	4.05	0.34
	SD	1.48	1.61	0.95
	n	77	77	77
Pasifika Language Only				
	M	3.38	3.84	0.46
	SD	1.42	1.69	1.03
	n	63	63	63
Pasifika and English				
	M	3.17	4.50	1.33
	SD	1.17	1.52	0.52
	n	6	6	6
Other				
	M	5.00	4.00	-1.00
	SD	.	.	.
	n	1	1	1

1. Three students missing first language information, therefore not included in this table.

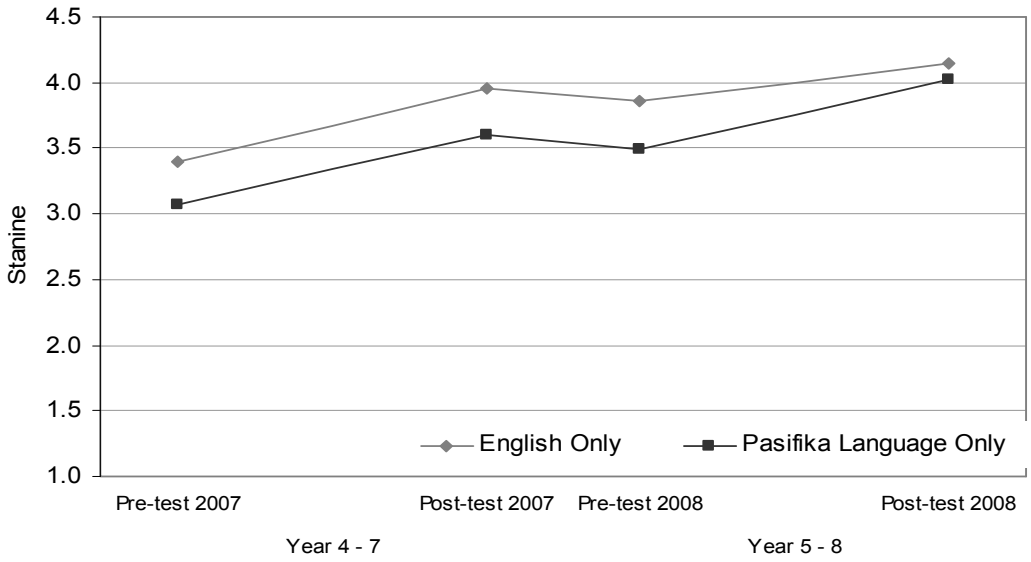
Table 38: Mean Stanines by First Language Spoken for Longitudinal Cohort (Case Study 1)

First language spoken[1]		2007			2008		
		Pre-test	Post-test	Stanine Gain	Pre-test	Post-test	Stanine Gain
English Only							
	M	3.39	3.95	0.56	3.85	4.15	0.29
	SD	1.50	1.63	0.84	1.71	1.77	0.90
	n	41	41	41	41	41	41
Pasifika Language Only							
	M	3.07	3.60	0.53	3.49	4.02	0.53
	SD	1.47	1.42	0.96	1.44	1.74	1.05
	n	43	43	43	43	43	43
Pasifika and English							
	M	3.60	4.40	0.80	3.40	4.80	1.40
	SD	1.52	1.34	0.45	1.14	1.48	0.55
	n	5	5	5	5	5	5

1. Two students missing first language spoken information, therefore not included in this table.

There was some indication that by the time students were in the upper levels of the school (Years 5 - 8), an earlier gap between children with only a Pasifika language at home and those with only English at home had closed (see Figure 22).

Figure 22: **Mean stanines by first language for longitudinal cohort (Case Study 1).**



Education in the New Zealand system

It could be predicted that greater familiarity with New Zealand educational practices (which is almost always confounded with immersion in English instruction) would be associated with higher achievement. This was found in the overall analysis, however, students who had lived in New Zealand for more than five years had similar levels of achievement and gain to those born in New Zealand. In this Case Study School we found that students who were born in New Zealand had higher mean stanines than those born elsewhere at both time points (see Table 39). The highest gains, however, were for those born in the Pacific region. This was complimentary to the general finding whereby the length of time lived in New Zealand was associated with different levels of achievement. The mean scores for those that lived in New Zealand for more than five years and those that were born in New Zealand were significantly higher than those that had lived in New Zealand between one and five years.

Table 39: Mean Stanines by Birth Country (Case Study 1)

Birth country[1]		2008		
		Pre-test	Post-test	Stanine Gain
Pacific Region				
	M	3.17	3.83	0.66
	SD	1.42	1.67	0.77
	n	29	29	29
New Zealand				
	M	3.66	4.10	0.44
	SD	1.46	1.60	1.02
	n	112	112	112
Other				
	M	3.60	3.20	-0.40
	SD	1.52	1.48	0.55
	n	5	5	5

[1.] Four students missing birth country information, therefore not included in this table.

The general interpretation of this finding is supported by examining the patterns for students who had spent differing amounts of time in New Zealand. Students who were not born in New Zealand but who had lived in New Zealand between one and five years had higher mean stanines at all time points than students who had lived in New Zealand for five or more years (see Table 40).

Table 40: Mean Stanines by Time Lived in New Zealand (Case Study 1)

Time in New Zealand[1]		2008		
		Pre-test	Post-test	Stanine Gain
1 - 5 years	*M*	3.36	4.00	0.64
	SD	1.43	1.73	0.67
	n	11	11	11
> 5 years	*M*	3.21	3.68	0.47
	SD	1.58	1.70	0.84
	n	19	19	19
Born in NZ	*M*	3.65	4.09	0.44
	SD	1.46	1.61	1.03
	n	110	110	110

[1.] Ten students missing time in New Zealand information, therefore not included in this table.

Student views

As noted earlier, all students had high hopes of a good future and they all believed that education would get them there. When asked whether the school was preparing them for their future, students were almost all in consensus that it was. They preferred to have *"more homework and harder stuff"*. When asked whether they let the teacher know about this, one replied, *"Yeah, but he's trying his best to make it hard"*. Overall, there was evidence that students positively appreciated teaching and learning at the school. Consistent with existing research reviewed in this report, Pasifika students expressed high motivation. They wanted more challenging teaching and to achieve highly.

3.3.2 Focus Cluster School: Case Study 2

Overview of the school

This was a medium to high performing decile 3 secondary girls' school. Overall achievement at the end of Year 9 for Pasifika students on asTTle reading comprehension was 627.95, which was close to the national norm (634) and at Year 10 it was 708.7 (national norm 728) (see Table 41). It is expected that from the end of Year 9 to the end of Year 10 students would gain 94 points. In general, the Pasifika students made higher than nationally expected gains within years. Within the different Pasifika groups, however, there were differences in achievement when tracked longitudinally over two years. Case Study 2 Pasifika students gained a mean of 80.77 points from the end of Year 9 to the end of Year 10. Within Pasifika groups, Tongan students made the greatest mean asTTle point gain, above the nationally expected gain (M = 153.33). The Samoan group also had a mean gain marginally above the nationally expected mean asTTle points gain (M = 94.65).

Table 41: Mean asTTle scores by Ethnicity[1] for Case Study 2 Year 9 to Year 10 cohort[2] Pasifika Students (Case Study 2)

		Pre-test 2007	Post-test 2007	Post-test 2008
Tongan				
	M	459.00	520.67	674.00
	SD	136.17	176.66	93.21
	N	3	3	3
Cook Island Māori				
	M	572.50	664.50	750.50
	SD	61.52	9.19	40.31
	N	2	2	2
Samoan				
	M	528.59	624.35	719.00
	SD	81.52	71.19	65.42
	N	17	17	17
Other Pasifika				
	M	534.71	638.57	715.24
	SD	52.70	68.50	47.67
	N	21	21	21
Pasifika Unspecified				
	M	523.29	630.74	699.32
	SD	51.57	50.18	62.68
	N	31	31	31
Total				
	M	526.47	627.95	708.72
	SD	64.34	69.54	60.06
	N	74	74	74

1 We used ethnicity information from students' self-report in the language surveys. The asTTle data provided only reports four main ethnic groupings: Māori, Pasifika, New Zealand European and Other. 74 of the pre-post students were identified as being Pasifika from the asTTle files. Of these, only 43 had completed language surveys. Therefore, the remaining 31 Pasifika students are listed as 'unspecified'.

2. These students were Year 9 in 2007 and Year 10 in 2008.

The overall total population of the Pasifika group at the school is estimated to be 55%[16] including Year 9 and Year 10 Pasifika students. The breakdown for the Year 9 and 10 groups we examined was Samoan 45%, Tongan 10%, Cook Island Māori 7%, Niuean 5% and 'Other Pasifika' (including more than one Pasifika identity) 32%. Exactly half of these students had English as first language, with Samoan being the next most common first language (15%). Of the total Pasifika group, two thirds were born in New Zealand.

Connectedness – community and school

The theoretical prediction here was outlined for Case Study 1. The evidence in the present Case Study was that the Principal had thought strategically about involvement and close connectedness. This had come after a series of 'hit and miss' strategies with different Literacy Leaders at different times, where they had not been able to identify strategies that would encourage parents to participate. This is because the initial focus was directed inwardly - on strategies and programmes to be developed for achievement of students and not on strategies to increase connection.

> *The particular strategies that we've used to meet the needs of Pacific Nations students have really developed over time. Because we really, I think we just didn't understand how deeply we had to delve into this. I think people had been lulled into a false sense of security with the literacy across the, language across the curriculum that everyone used to do. And sort of thought that that was what it would be all about.* [Principal]

This admission was in many ways a sign of relief and one which set the school in a new direction thus signalling a new beginning.

> *It very quickly become apparent to me and I guess it helps because I'm an English teacher by [specialisation], you know, that's what I was when I was a teacher - classroom teacher … became very clear to me that it was the pedagogy that needed to change. It was a much deeper thing than simply dishing out a few strategies and saying this is what you need to do.* [Principal]

A new beginning was to start with student engagement and new forms of inquiry.

> *The way we've done things in the past does not work, cause we do not get that sort of engagement that we need to get in the Junior school. It doesn't suddenly happen when they get into the Senior school. What we've seen, because we, it's quite a change in the type of student we get coming into our school, we really need to get them engaged at Year 9 and Year 10. That's why we're really keen on getting the Gifted and Talented teacher involved because she has, she does a focus on this whole business of Inquiry learning and thinking strategies, thinking skills, theory of knowledge. We want to do that with all of our students.* [Principal]

Nevertheless, several specific programmes designed to increase connections were identified. For example, the delivery of information about asTTle to parents and the community extended to much more focused events during an informal barbecue. Others were classroom-specific activities where Form teachers held term meetings with their parents in smaller groups, thus creating opportunities for parents to talk one-on-one. Although the information exchanged was concerning analyses of achievement from asTTle and the form and subject teachers' focus for the following term, these were also attempts at making bigger connections with the community.

[16] As reported by the Principal.

A wider community connection, for example, is evident in a yearly Fono at which achievement data is again, with the help of a translator, discussed in addition to NCEA results being compared with national norms and decile averages. In addition, there are mentoring schemes run by community members – one for Year 12 - 13 and one for Year 10 students. There was not, however, a sense from the interview that the parents were given specific information about how to help support their children academically or how the school could learn from the parents about cultural and linguistic backgrounds and resources. Thus, the school leadership was aware of the community and had several programmes in place to involve both parents and the wider community, but it was unclear how reciprocal this relationship was in terms of mutual learning and how specifically parents might have been given information with regard to how to provide academic support for students.

The Principal felt the school now had more engagement with students and noted the generalised effectiveness for Pasifika students of the Te Kotahitanga (TK) initiative. There is a sense that the school is perhaps 'testing the waters' in an attempt to understand its community better; to see which programme fits and which strategy could work best for parents and the community at this stage for reciprocity to occur.

Inquiry processes and collective efficacy

The theoretical prediction was outlined for Case Study 1. In this school, the Principal acknowledged the impact Te Kotahitanga has made to teachers and their practice, but most importantly to student achievement. Though the tendency of teachers was to go the 'middleclass European way of doing things' by default, she admits that the Te Kotahitanga initiative has made teachers realise the importance of inquiry learning, of self-examination and critique and questioning why things are the way they are. The comment below illustrates the evidence of implementing Te Kotahitanga.

> *... at the end of 2006 where we started on Te Kotahitanga taking it into last year we decided we wanted to focus on Pacific Nation students using that same strategy so the teachers were asked to, the teachers of literacy were asked to consider, make an effort to consider at least 4 of the students, in the same way as they were doing for Māori students, at least 4 of the students in their classes to focus on their needs in terms of literacy and numeracy to get them to where we want to go to show that interest. We found that that had a very empowering effect on their learning as well. Then that plus the fact that we really started to push the idea of group work or students working in groups, student centred learning all that sort of stuff, they were then, the students were then sharing their knowledge, what they've learned, helping other students in the class.* [Principal]

The Principal referred to detailed forms of evidence and communicating that evidence to parents. Clearly through the Schooling Improvement initiative, and especially Te Kotahitanga, there has been a clear focus on pedagogic styles in addition to gathering and managing robust databases for tracking students. The Principal used evidence to support claims regarding improvement.

> *There's a lot of things that have been happening. It'd be hard to pull out one thing and say this is what made the difference from the students' point of view, but I do believe that from the teacher point of view as far as pedagogy is concerned it has been TK that has made the big shift and teacher pedagogy in Year 9.* [Principal]

The Principal also made claims about visible differences in relation to her broader educational philosophy and goals for students in the school.

> *And it's been really good to see that difference. It's certainly supported my particular philosophy I suppose you would call it. Which is that we're in a low decile school, we're very multicultural, and if we want to break the poverty cycle we would want to create young women who are leaving school who are going to be beneficial and do great things for our communities then they've got to leave with qualifications.* [Principal]

Sustaining the achievement, however, and getting teachers to fully understand the importance of change in the way they teach and in the way they do things, given the less effective pedagogical practices of the past especially for Pasifika students, is another goal for the school.

> *Getting that change starting to happen and realising that in fact it was making far bigger difference than anything they've done in the past that's been the big challenge. I think that taking a step back and looking from further away our retention rate of Pacific Nation students has increased enormously. I do think that having that Year 10 high-motivation class has made a big difference cause they continue in that class in Year 11, 12, 13. I think that's been a huge help.* [Principal]

Parents' views

Whilst the Principal's views about 'change' focus mainly on the internal practices of the school, generally parents agreed that what the school is doing is 'pretty good' by frequently informing them about developments. This is illustrated by the responses of two of the parents:

> *… I think what I've seen … what they do is pretty good like keeping us informed regularly and frequently and constantly kind of thing and that is really all what we need. We just need to know she [her child] is not wagging class and in 4 weeks time they are going to be taught sex education that kind of thing.* [Parent]

> *But if there is something that school can do. [School B1's] actually quite good, they have been keeping us informed. Sometimes sending us letters like just to give an understanding of where they are at in school, the forms and what they are about to teach and they are really good.* [Parent]

The home-school partnership was important to the majority of parents as one way to realise their aspirations for their children. The parents had specific ideas to contribute about home and school practices that might help achievement. It was apparent that there might be areas that the school could focus on in order to increase parent participation. This is conveyed by one parent:

> *… a lot of parents come over with their 'fanau' not being able to speak English very well, teaching the parents English to help them teach their children you know, that would be a help.* [Parent]

When asked whether she was suggesting that the school run workshops for parents, she responded:

> *Well yes, because a lot of the parents that come to school don't speak English and the girls are translating for them or their English is very limited.* [Parent]

One parent did not agree that parents should come to the school. She claimed that although volunteering in the school is a good strategy to get parents involved, she did not think that this was applicable to parents of teenage students:

> *No, I don't think, at that level I don't think getting parents to come and volunteer their time at school, in school, is not a good idea. I know with my youngest at her school ever since kindy they have always tried to get parents involved like volunteering their time and get around their kids, and that was good for their growth at that age, but at school it's more of a teenage world there where everything has to be so cool or if you are not cool you are not in. So it's not cool to have your mum come [laughs] in [her child's] eyes it's not cool to have your mum come to school and do something there. It's just not cool.* [Parent]

In the case of students not performing to school expectations, parents suggested that the school should find out from them what the cause of that might be - as conveyed by one parent in the school:

> *Like if there's anything the child is not to expectations, then the school should ring parents and let them know then the parents tell them what's going on…and what should be done. By doing that, the parents will know the degree in which the relationship between the school and the home is at. What the kids between them or what's happening at home that the school is unaware of.* [Parent]

This was also supported by one parent when she indicated the importance of having Pasifika teachers in the school at meetings:

> *Because that way they understand more of what Pasifika Islands are going through…to help in the school with sorting out students…can help parents who are not fluent English speakers, and work as go between home and school…That's what I think anyway…* [Parent]

In the case of their support for their children's homework, parents would also prefer that the school give explicit examples of how these should be done in order for them to guide their children. For example:

> *It's just that some parents say that teachers should be able to give examples of homework and how it should be done so that parents could follow it so…* [Samoan Parent]

But perhaps a general desire by parents especially the grandparents is to see visible evidence of the education success of their grandchildren before they pass over. The comment below is furnished by one of the parents concerning her father's wishes for her child.

> [Of her father] *I do actually, he never said specifically what, but one day they were talking and he said, "if all I want for you is get to Uni, graduate before I go" [laughs] and that's all he wants, he says, "try hard at school and you get to university, but when you are there you finish it and if that's the last thing I see before I leave this earth then you have done it, you have made me proud" [laughs].* [Cook Island Parent]

Quality instruction that is culturally responsive

Our theoretical view was outlined for Case Study 1. The school has a deliberate focus on Pasifika learning and achievement, which has followed a strong commitment to Te Kotahitanga. The Principal believed that over time a distinctive pedagogy that was more effective for Pasifika students had been developed. It was comprised of an amalgam of several strands which included elements of a new inquiry model drawn from Te Kotahitanga and explicit instruction in literacy content and features, such as main ideas and use of text structure (borne out in the observations in classrooms see below). It was in part content-based drawing on text resources.

> *We had Pacific Nations writers coming to assemblies to read stories they'd written, books they'd had published.* [Principal]

The push in reading included buying many new books and short stories that had a Pacific nations focus for SSR. But again this was one prong of a coherent set of strategies. One Literacy Leader had visited every Year 9 class to read a book in Samoan, explaining how she worked out some meaning from her limited knowledge of Samoan as a means of modelling how to get the gist and making an 'informed guess'. The effect of Te Kotahitanga had been felt in two areas. One was in the area of an inquiry-based pedagogy and the other was the need for showing an interest in cultural background and individual learning needs. Other strategies included group-based work to shared knowledge and also an understanding of the socialisation of Pasifika girls.

In summary this account (supported in part by the classroom observations) suggests a deliberately designed pedagogy that has generic features such as inquiry and explicit teaching and includes cultural responsiveness. The observations described below support this overview in part, such as the explicit literacy teaching and the use of familiar textual themes, but do not fully support a sense of heightened cultural responsiveness or extended inquiry (which, in the observations, would be tapped by the dimension of Extended Talk).

Of the two teachers observed, one had a relatively high total score (T1 = 87.3%) and the second teacher one of the lowest total scores across schools (T2 = 60.4%). The percentages averaged for the three lessons are shown in Table 42. In some instances the scores reflect the unique characteristics of secondary organisation. For example, T2's classroom was scored low on features partly because it was the home room for German teaching and was not a 'rich' environment for English teaching. By contrast T1 was observed in her home room and there were many examples of student work, reminders and parts of projects.

Table 42: Mean Observation Percentage for Focus Teachers at Case Study 2

	Classroom	Instructional Dimensions %					Cultural
	Features %	Talk	Knowledge	Strategy	Vocab	Feedback	Responsiveness %
T 1	100	61.2	94.4	93.3	86.7	66.7	83.3
T 2	61.0	38.9	83.3	50	38.9	88.9	61.1

As noted in the overall results across schools for the classroom instruction, the scores are not very good indicators of specific gains in specific classrooms, even over three lessons. The patterns observed in this Case Study school were not as expected. The teacher with the higher instructional score (T1) had lower gains in 2008 (classroom gain = 76.40), but in 2008, the students in her Year 9 classroom were above the national norm for asTTle scores (634). The second teacher (T2) followed the opposite pattern, with higher gains (2008 classroom gain = 99.35) but lower levels.

In general across schools, however, the single teacher ratings of the instruction appear to be associated with the overall levels of the schools' achievement and the gain over the most recent year, 2008. The overall score for the two teachers was moderate (74%) and this school had moderate overall levels of achievement in 2008. At the end of the school year in both 2007 and 2008, the mean asTTle reading score equates to curriculum level 4P. This is at national norm but below the Curriculum expectation. The school made a below expectation gain in 2008 (asTTle reading mean gain = 83.58). See Table 43 for the summary.

Table 43: Mean asTTle reading score for (Year 9) Focus Classes and School at Case Study 2

Teacher	Total %	Mean %	Class Achievement[1]			School Achievement[1]							
			n	Pre-test 2008	Post-test 2008	*n*	Pre-test 2007	Post-test 2007	Gain	*n*	Pre-test 2008	Post-test 2008	Gain
T1 (Y9)	87.3		5	568.80	645.20								
T2 (Y9)	60.4		16	510.81	610.63								
T1, T2		73.9											
School						88	525.06	626.85	101.80	77	533.23	616.82	83.58[2]

[1.] STAR mean stanine.

[2.] Below Expected gains = 117, but levels similar to nationally expected levels.

The transcripts for these two teachers have elements of 'best practice' instruction. One teacher had noticeably different scores in all areas apart from Feedback (illustrating that teachers who rated highly on any one dimension tended to rate highly across all areas). Some of the opportunities to observe specific instructional dimensions were restricted because of the prevalence of independent and/or silent study in the classrooms. However, it is worth noting that even when opportunities were present, High Level Talk did not occur very frequently for either teacher whereas a Core Knowledge Focus was noticeably present (e.g., specific questions on worksheet about novel). The dimension of Cultural Responsiveness was not strongly present in either classroom as recorded by the observers. For T1 in two of the lessons there was "no particular appreciation made of 'backgrounds', but evidence of high positive expectations". T1 used more engaging texts and tasks such as writing a newspaper article. Aspects of her instruction, including her expectations and dimensions, are captured in the introduction to the series of lessons.

> *Now, you may have done newspaper article writing last year during your intermediate school. What we are looking at this year is progressing in our writing skills. We are looking at a higher standard of writing. A really good title. Good introduction. Indirect speech, quotes. Detailed description of the event. What I'm going to give you today is a sample of a newspaper article for you to look at and analyse it just before you get onto your work. Or you may refer to it in between your work at your convenience. What we also have later is a checklist, you are going to keep the checklist in front of your group so you know what we are looking at, at the finished product.* [Teacher]

The lesson involved specific instruction in core knowledge (such as writing in the third person, use of pronouns, use of headers and so forth).

The students' views about teachers and their instruction

Thoughts about the teacher

The students had distinct views about teachers, teaching and learning. There are some consistencies between their views at a general level but comments about individual teachers show inconsistencies. When asked about their views of their teachers, one student preferred to have a good relationship with the teacher because this is important to her. She likes some of her teachers, particularly the ones that are *"really nice, they motivate us to learn more"*. She described her English teacher as *"not bad"* although she sometimes uses words that they don't understand well. She does ask her teacher to clarify on such occasions and her teacher obliges.

A second student noted that her English teacher was very helpful in instruction. Yet another girl said what she liked most about her English teacher was that she was prepared to go over material as many times as necessary so that the students *"get it"*. She feels that her teacher really wants her students to pass their tests and encourages them to stay on at school. Another noted that her English teacher explains to them what to expect next year and prepares them for it. Although she thought her English teacher is good at what she does, she didn't find English to be a very interesting subject. Of two other students, neither liked their English teacher because they have difficulty understanding the way she talks because of her accent. They liked the way their English teacher taught except when she let them do what they wanted. They felt that things are not explained well enough in English and that they move on too quickly through topics before they have come to understand them.

One student described her teacher as *"the best"* and *"the bomb"* because she's not strict:

> *Like if you forget your homework or something, she's like, okay, bring it tomorrow and if you forget it tomorrow, she's like, okay, bring it the next day. She's not that strict.*

She claimed that her teacher gets onto the students' level at times and makes the work fun.

> *She's just cool. She acts like she's our age sometimes, she treats us like normal people, not like children.*

Students had views on teachers' pedagogical styles, making reference to the emotional connection and support. One of the students liked the way her ICT teacher teaches her because *"she's really nice and she knows what she's doing and she really supports our class"*. Her English teacher tries to motivate the students and allows more time for completion of work if necessary. Another student, on the other hand, liked the fact that her teacher intersperses fun with the serious work:

> *…there's times where we could have, like fun, but then there's times where we have to be serious.*

One student identified another aspect of the relationship in the way the teacher *"trusts us, like if we don't bring homework she can tell us to bring it another day"*. She also likes the way her teacher explains things, although the students don't always get it all the same, mainly because she "*talks too fast"*.

The students did comment on the limited use of background knowledge. Two students did not find the topics interesting because their teachers don't relate to things they are interested in, such as *"our favourite singers"*. They would like to have greater choice and have their opinions listened to. They do however like working in small groups, something which happens often in their English class. As one student explained, this is preferred because *"if [the other students] haven't done any work and I haven't done any work then it's not just me getting into trouble."* Another reason for preferring group work is that *"you get more help when you're with your friends"*.

Pasifika learners

Language features

Language features and their relationship with achievement were examined in a two-year longitudinal cohort who were Year 9 in 2007 and Year 10 in 2008 (n = 43). In some analyses for ethnicity and language patterns these students were augmented by those students who were Year 9 in 2008 and had beginning and end of

year asTTle scores (n = 39). These are very small sample sizes and these analyses should be read as indicative only and, therefore, interpreted with considerable caution.

Unlike the general analysis for level differences there was not a positive relationship between having English as a first language and higher achievement (see Table 44). Again unlike the general analysis the relationship between having both a Pasifika language and English spoken at home, and achievement level over a year was not negative (see Table 45).

Given the numbers these patterns are difficult to interpret. At the very least these data show that by Year 9 having spoken a Pasifika language first or having a home that is bilingual is by no means an impediment to high achievement.

Table 44: Mean asTTle scores by First Language Spoken (Case Study 2)

First language spoken		2008		
		Pre-test	Post-test	Total Score Gain
Year 9 National Norm	*M*	517	634	117
English Only				
	M	536.42	600.58	64.16
	SD	115.32	94.90	61.40
	n	19	19	19
Pasifika Language Only				
	M	539.73	649.36	109.64
	SD	86.99	58.91	77.97
	n	11	11	11
Pasifika and English				
	M	486.60	544.20	57.60
	SD	83.72	150.78	103.01
	n	5	5	5
Other				
	M	623.25	681.50	58.25
	SD	92.25	47.65	58.27
	n	4	4	4

Table 45: Mean asTTle scores by Language Spoken at Home (Case Study 2)

Language spoken at home		2008		
		Pre-test	Post-test	Total Score Gain
Year 9 National Norm	*M*	517	634	117
English Only				
	M	539.91	625.73	85.82
	SD	110.23	110.23	74.77
	n	22	22	22
Pasifika Language Only				
	M	467.00	509.50	42.50
	SD	84.28	100.36	79.92
	n	6	6	6
Pasifika and English				
	M	561.78	646.67	84.89
	SD	69.47	55.10	62.92
	n	9	9	9
Other				
	M	659.50	679.00	19.50
	SD	129.40	80.61	48.79
	n	2	2	2

Education in the New Zealand system

It could be predicted that greater familiarity with New Zealand educational practices (which is almost always confounded with immersion in English instruction) would be associated with higher achievement. This was found in the overall analysis. Due to the small numbers in this case study school a simple summary is not possible. We found that being born in New Zealand was not associated with a higher asTTle level score or gain (see Table 46). This was contrary to the general finding whereby the length of time lived in New Zealand was associated with different levels of achievement. The mean scores for those that lived in New Zealand for more than five years and those that were born in New Zealand were significantly higher than for those that had lived in New Zealand between one and five years.

Table 46: Mean asTTle scores by Birth Country (Case Study 2)

Birth country		2008		
		Pre-test	Post-test	Total Score Gain
National Norm	*M*	517	634	117
Pacific Region				
	M	551.11	607.44	56.33
	SD	120.32	113.29	80.33
	n	9	9	9
New Zealand				
	M	533.86	611.18	77.32
	SD	103.41	92.19	71.13
	n	28	28	28
Other				
	M	573.50	710.50	137.00
	SD	43.13	54.45	11.31
	n	2	2	2

Table 47: Mean asTTle scores by Time lived in New Zealand (Case Study 2)

Time in New Zealand		2008		
		Pre-test	Post-test	Total Score Gain
National Norm	*M*	517	634	117
< 1 year				
	M	369.00	477.00	108.00
	SD	.	.	.
	n	1	1	1
1 - 5 years				
	M	620.67	676.67	56.00
	SD	113.56	57.14	72.02
	n	3	3	3
> 5 years				
	M	553.71	625.86	72.14
	SD	86.75	120.13	91.26
	n	7	7	7
Born in NZ				
	M	533.86	611.18	77.32
	SD	103.41	92.19	71.13
	n	28	28	28

Student views

What students thought about their school

Students' views have been described above. Here we identify their thoughts about school more generally and ideas about making school better for them. When asked what their thoughts were about school, student responses varied from *'not bad'* to *'boring'*. One student thought that school is *"not bad"*. She likes drama because it's fun, and also likes maths and English. She claimed that the other good thing about school is that she gets to spend time with her friends. She doesn't always feel really good about going to school but when she's there *"it's okay"*.

Another student described school as *"alright",* adding that she mostly comes to school for her friends, but that *"education is cool too"*. Other girls enjoyed a variety of subject areas including social studies, PE, ICT, music, English and German and because they get to see friends, meet new people and learn *"different stuff"*. Two students think school is boring because the teachers *"don't make it fun"* for them and *"don't like listening to [their] point of view"*. Subjects were liked for a variety of reasons: because they can get to *"do [their] own thing"* in between working and because they *"get away with talking"*; or because science and maths was interesting but English was not interesting. These two students did not feel very good about school. They don't get excited about their learning and sometimes simply *"can't be bothered"* because they feel that they are not learning anything. The main reason they come to school is to be with their friends.

Clear views about homework were held, varying from *"okay"* and *"pretty straightforward"* to quite bad. There were differences between teachers in how much homework was set. For example, three girls said they didn't get much homework in English, and it only takes about half an hour to complete it. The homework is sometimes hard, but one student thinks that is preferable to getting easy work because it is more *"challenging"*. This student does her homework independently, in her bedroom. One girl does her homework by herself and usually works in her room or does it at school in the morning before school starts. Some of the homework is challenging but their teacher goes through it with them. Both girls usually do their homework without help, but will get help from a sibling or parent if necessary. Homework is usually completed in a bedroom.

The girls said that the homework which they do get often does not get checked by their teachers, so they generally don't bother to do it. If the homework is unfinished class work, they will do the work at lunchtime if they have to. If they get told their homework is going to be checked, the girls will do it before school or sometimes at home. If the girls understand the homework, they will do it by themselves. Otherwise, they may copy it from friends to get it done faster so they won't get into trouble.

The girls were asked about what they would like changed at school to assist learning. Again, relationships, the style of teaching and the challenging nature of the work together with higher expected levels of difficulty were often among the responses. One said she wanted her teachers to have *"a better attitude"* towards the students and *"be more supportive instead of yelling"*. Two girls echoed her concern and believed that they would learn better if their teachers had a better attitude instead of being *"grumpy"*. Another would like teachers to teach in a more interesting manner rather than talking from the front of the class. She felt that more small group work would make learning more interesting. These features are contained in the following statement:

> *They'll take their anger out on us, so that's when we backchat them… yeah it's easy to get into an argument with the teachers here cause they're not as, they don't understand you. Like when*

you say something they just tell you to be quiet and do your work and you get angry and then you backchat them and it's all because they don't talk to you about what happens.

For the most part, the students get along with the other students who they think are *"really cool"* but some students don't behave well in class, which can be a bit distracting. One of the girls described their peers as being *"like family"*. Two other students said they feel sorry for the other students because they fight over boys a lot. They believed there was *"too much hate at this school and bullying*".

All students expressed a preference for being taught in English.

3.3.3 Case Study 3

Overview of the school

This was a decile 1 contributing primary school. Overall achievement was high, with levels across time between stanine 4 and 5 in reading comprehension. The Pasifika students as a group consistently made higher than nationally expected gains within years. When tracked longitudinally over two years, there were differences in achievement for the different Pasifika groups within years (see Table 48).

The total Pasifika group at the school overall is approximately 74%. The breakdown for the Years 4 - 6 groups we examined was Samoan 48%, Cook Island Māori 28%, Tongan 21%, and 'Other Pasifika' 3%. Almost half (48%) of the students had English as first language, with Samoan being the next most common first language (29%). Out of the total Pasifika group, more than two thirds of students (77%) were born in New Zealand.

Table 48: Mean Stanines by Ethnicity for Case Study 3 Years 4 - 6 Pasifika Students

		Pre-test 2007	Post-test 2007	Pre-test 2008	Post-test 2008
Tongan					
	M	4.00	4.17	4.83	3.67
	SD	0.63	0.75	0.75	1.03
	n [1]	6	6	6	6
Cook Island Māori					
	M	5.00	5.00	4.63	4.38
	SD	1.07	0.76	1.06	1.41
	n	8	8	8	8
Samoan					
	M	4.14	4.57	4.21	4.50
	SD	1.29	1.60	1.81	1.61
	n	14	14	14	14
Other Pasifika					
	M	3.00	4.00	4.00	4.00
	SD	.	.	.	.
	n	1	1	1	1
Total					
	M	4.31	4.59	4.45	4.28
	SD	1.17	1.24	1.40	1.41
	n	29	29	29	29

[1.] Numbers too small to run *t* tests.

Connectedness – community and school

Our theoretical prediction was outlined for Case Study 1. The evidence in the present case indicated that the school had considerable involvement and close connectedness. In terms of Epstein's 6 types of involvement,

the deliberate strategies the school helped activate were both the 'help' and 'motivational' types as well as the specific academic input types (Epstein, Coates, Salinas, Sanders, & Simon, 1997). The latter two types, involvement that impacts on motivation and on academic skills, are consistently related to academic achievement.

The school leadership deliberately and strategically planned to include the community. The school has a community initiative around Parents as Reading Tutors (PART) which involves parents assisting as reading tutors using the pause, prompt, praise programme. The school is also participating in the Home-School Partnership programme. Parents are seen as a key ingredient in the success of these initiatives and clear roles have been carved out for them on the understanding that developing a culture through leadership is a priority, and enables the school to give them a place to belong to and be valued.

> *I think we've developed a culture here where they feel part of the [school name] community. They feel, you know, a sense of belonging and a sense of that they are valued as a partner. And I think that the fact that the parent interviews that we had at the beginning of the year, we had 95% parent turnout – which is quite significant.* [Literacy Leader]

The involvement also draws on their particular cultural expertise. As part of the Home-School Partnership initiative they have identified their key ethnic groups and harnessed the cultural and pedagogical expertise of their Pasifika teachers and leaders in their communities to communicate with parents, share the achievement data, and disseminate in their language strategies other parents can use to support their children's literacy and numeracy development.

The Principal's view of the teachers as having specific cultural expertise is conveyed in the following comment:

> *[We call on] staff from different Pacific ethnic groups as well so their contribution or their knowledge, you know, we value in terms of doing topics and trying to use their expertise.* [Principal]

In addition, the school has worked to utilise key leaders within the various Pasifika communities to liaise with the wider Pasifika community and disseminate information relevant to children's learning:

> *[We identify] key parent leaders, and then provide those key parents with strategies that we've focused purely around literacy and numeracy. So a few of the sessions were providing those key parent strategies that we use within the school around literacy and them being able to deliver that in their home languages to the parents. And… being able to do that has seen the school have more parent involvement because it's almost like the school is saying that we acknowledge that [they have a part to play].* [Principal]

This strategy acknowledges the unique skills that these community members have, and conveys to the Pasifika communities that their input is both necessary and valued:

> *The great thing is when we run those sessions that the teacher is not seen as the lead person, someone in the community is seen as the lead person, so we are acknowledging that we really value the parents out there, and when the parents see that one of their own is leading the discussion they sort of feel really comfortable and so their involvement in the school has become somewhat ... what it's allowed, really, is more parent involvement in the school, and*

> *parent conferences or parent interviews, we have between 90 and 95% of our parents turn up. And that's great for us, for our little school. So that's been a really great strategy.* [Principal]

'Trust' is known as one of the strategies for 'acceptance' between people and it is important to note that the school was evidently using this strategy to get parents involved. They were able to deliberately empower parents by strategically disempowering themselves as professionals (Amituanai-Toloa, 2007a). They did this by admitting to the community that the school and staff generally have limitations and that they are not knowledgeable enough about what could be done. By this admission the balance of power is tipped, thus creating for both school and community acceptance and equal space for problem-solving and decision making. Below is an example of disempowerment:

> *[We] can't do it alone, we can't do it without you, we desperately need you. You know. We can do one little bit of it but we can't without the kind of parent support that we get. There's so much that we can't do. And they know that, they understand that. They feel that.* [Literacy Leader]

The rigorous home-school partnership that the school aspires to seems to embody a strong school belief and understanding that a good and workable partnership with parents is one that is similar to that of 'aiga' where family and extended family members work together through relationships for the betterment of the group. For example, the school's plans for continued strength of the home-school partnership in order to raise and sustain student achievement gains has led to the identification of specific Pasifika groups which are not achieving as well as others, thereby creating a focus and continued dialogue with their parents. The notion that 'it takes the whole village to raise a child' is validated and seen in the school as an important focus for deliberations and agreement on workable solutions.

> *Just continuing to discuss what more can we do, what works. Looking at what works in other areas, that's why this research is so exciting. We need to talk to the Tongan parents about that and find out what we can do together to raise that achievement. I think that's a drilling down.* [Literacy Leader]

An important aspect of leadership in this school is the underpinning rationale for connection made by the Principal himself. As he himself is Pasifika, he is the first point of connection to the community and parents and his cultural knowledge and expertise is made known by the partnership processes and practices he adopts. Epstein notes that 'the development of a partnership is a process, not a single event' (Epstein, 2001).

The connection even extends to the involvement in academic skills throughout the school, for example, with struggling students. The school has an English for Speakers of Other Languages (ESOL) programme for students struggling academically and employs parents from the community as teacher aides as part of the PART programme.

In the following quote, the Literacy Leader elaborated on the teacher aide programme. She agreed that it has had an impact on students but only because student needs are able to be identified earlier at this level for follow up action before the needs increase.

> *[The] teacher aide programme where the teacher has identified certain needs and those are worked on with students.* [Literacy Leader]

Pasifika parents are involved in more traditional ways too. For instance, their expertise is recognised and utilised to assist with cultural activities, arts and school sports.

> *We found that many of our parents were really great sewers and really great weavers, so their involvement and their expertise and supporting kids with sewing and weaving and seeing the final product is just I think, utilising them in that way, through the things like coaching sports teams and their involvement in the school cultural group as well.* [Principal]

These are not added extras or useful adjuncts to core business. Parents are seen as a key resource and central to students' achievement gains. The Principal's view is that the most effective strategies for connection involve strong relationship building with parents through their understanding of what the initiatives have enabled, integrated with the greater understanding they have obtained of student data and how to use the school-based evidence to improve academic achievement for Pasifika students. This idea has seen an increase in the number of parents participating in school activities.

> *School is about people and building good relationships and I think if you can build those really good relationships and have a real good understanding of the child holistically, knowing a bit about their background, what's happening in their home life, but also knowing where they are academically… it's all about growing really strong relationships so that allows… more people to really be involved in the school in many, many ways. The second part to that would be really understanding the child academically, so really knowing your data and knowing how you are going to move them from A to B. But relationships really, is the one for me.* [Principal]

Importantly, the planning for involving parents is not static. The school plans to continue to strengthen many of the initiatives which have already begun, such as parents' understanding of student achievement data:

> *What this means for them and their children and what it means for the school… and where are we all going next in terms of continuing to raise student achievement… the more knowledgeable the parents are, the better it's going to be, and the easier it's going to be for us to continue to raise student achievement… of the things that we've got planned for next year is looking at our school wide achievement data, looking at our different ethnic Pasifika groups and looking at their student achievement as individual, like Samoan data, the Tongan, the Niuean, having a look at that and maybe looking at talking to those groups of parents individually, and find out what we can do together to raise that achievement.* [Literacy Leader]

The leadership team's focus on achievement and the strategies involved were echoed by parents. Four mothers were interviewed; two worked at the school, the other two were housewives. The talanoa process with parents confirmed that the Pasifika parents at this school had high aspirations for their children, matched by the desire to provide for their education, even if it meant working at the school to be close to their children or walking the distance to take the children to school because of transport issues. For one mother, it meant that her children had to go away from the home to someone more educated in order to get the academic help they needed.

These parents were in agreement on two things. Firstly, their main responsibility is the protection of their children. Secondly, they know that as parents they are depended upon for the academic success of their children. With regard to protection of their children, mothers believed that whilst 'change is inevitable', their closeness to their children could kerb the peer pressure their children are exposed to so that they do not end up on the street like other children. One mother stated:

> *There are a lot of kids on the street nowadays who don't make good use of their time…and they don't care. In Samoa, the kids come home after school and know exactly where to go, i.e., homework then chores. That is why [names her child] I have to take him to school and pick him*

> *up. The only time I let him walk is when he has to lose weight…but in doing that, he plays games with me…he detours to the shop asks for one dollar…but he asks me in front of his friends so that I don't have to say 'no' and growl him. Then I say, 'wait till we get home eh?'* [Parent]

With regard to the second aspect, parents who are close to their children are aware of their academic needs. On the topic of the support she gives her son in maths, one mother suggested that the school should make children aware of different mathematical terms that are known to parents too. She stated:

> *Ma'imau pe ana fa'apea e a'oa'o e le a'oga ia upu tutusa uiga i le Maths. Pei o le 'minus' to'ese mo le subtraction; fa'atele 'mulitply' mo le times ma mea fa'apena. Aua a ou fai atu minus e le iloa po o lea le uiga. Na tilotilo mai lea ia te a'u pei o a'u e valea.*
>
> [Translation] *I wish they [the school] could teach the children other words [synonyms] for maths concepts e.g., 'minus' for subtraction; 'multiply' for times and that sort of thing. Because when I say minus, he doesn't even know what that meant. And he looks at me as if I'm stupid [laughter].* [Parent]

The parents see their role as one which should complement the school's role. They understand the importance of the work the school is doing and support the school in raising achievement for their children, hence the need to do what they do to keep their children out of trouble. But they also need synergy between school and home strategies and practices so that what they do at home benefits both the school and their children too.

The mothers' aspirations were generally similar, but in one case differed in that one of the mothers wanted her son to be 'exactly like her'. Her profession was in accounting (which she had worked in previously) and she felt that the reason her son did not want to take up the same profession as her was because his mathematics ability with numbers was not strong enough. This she put down to the different way the school taught maths to her son compared to the way she taught her son at home - which is the way she was taught while at school. When asked to explain further, she replied:

> *Like…I worked at a good job in Samoa at the bank – and when I look at my children, no one seems to be good at maths and going that way – no one is good at accounting. Maths terms differ to those taught [to her] at school.* [Parent]

The following example came from an older mother in this school who does not speak English. She wept from beginning to end of talanoa. After she had said that her aspiration for her child was to see her succeed in life she was asked to describe the kind of support she gave her daughter in order for that success to be realised. Below was her response in Samoan:

> *[still crying] …Ou ke vili o'u kuagage fo'i ga e o la e ou ke iloa e lelei lakou a'oga ...ae maise o lakou fagau e fesoasoagi mai ia ke a'u ...ia ae sa'o lelei lava lau saugoaga ia ke a'u e pei oga e va'ai mai ua makukua ae o la e fa'ako'a valu kausaga o la'u keigeikiki makua. O la'u fa'agaugauga ia lelei age a lakou a'oga a e ou ke leiloa po'o le a sa'u fesoasoagi ou ke faia i la'u fagau...o a'u fo'i e vaivai fo'i. O le kele o kaimi e fa'afekai i le Ali'i ...oga o le kele o kaimi i la'u fagau laiki e kele iga le malamalama oga ou fai lea i la'u keige lea e fa'asa'o oga kago lea o ia e fesoasoagi i oga kei. O le kele o kaimi e fai ai lakou meaa'oga pe a o aku fo'i poo ile po...a ou le malamalama oga ou fai lea e kago e ka'u le upu...ma ou fai i ai...''kou ke iloa o le kou kiga e le ave ka'avale – ou ke malosi lava e ave e momoli oukou. Ia popoko ma malolosi*

> *oukou e fesoasoagi ... e kakau lava ia lakou oga ka'u mai po o a fesoasoagi e fai i la'u fagau ile gumela ae maise a fo'i le faikau kusi aua o la'u kamaikiki la e le poku 5, vaivai ia i le faikau kusi, ae avaku fo'i i le aiga, ou ke fai i gai ou kei e fesoasoagi. Aua e iai lakou polokalame faikau kusi o lea ga ou fai lea iai 'fa'amolemole pe mafai oga avaku la'u kama iiga e a'oa;o mai ai laga faikau kusi?" Malie lau susuga, ou ke ...*
>
> [Translation] *I call my brothers whom I know are well-educated and especially their children to help me out…it's like when I see that I'm getting old and my eldest daughter is only 8 years old. My desire for them is to have a high level of education but I don't know what sort of support I should give my children… I am also weak [unknowledgeable]. Most of the time I thank the Lord…and most of the time my little ones don't understand and I tell my eldest to help correct them. Other times when they don't understand and if I don't understand either, I say to them, 'say the word' and at the same time I say, "You know your mother can't drive a car – but I am committed to taking you to school. You be clever and strong to help"… they [the school] must tell me what kind of help I should give to my children in maths and also reading because my child is weak at reading so at home, I ask my nieces to help because they have reading programmes… so I asked if my child could come to learn to read.* [Parent]

This mother engaged the help of her brother's daughters for her child's reading. Her nieces are older and they are what she considered 'well-educated'. She desired a successful education for her child but as a mother, she did not know what to do as she was less educated. She considered driving the children to and from school as the only form of support she could give them. In addition, she gives constant encouragement when her child reads at home. She would prefer the school to inform her of the sort of help she should give to her child and at the same time provide some guidance through a school mentoring workshop for parents.

This is not to say that the school was not supporting them in any way. Rather, there are other factors which parents indirectly referred to as benefits. For example, one mother was glad that her child's teacher was honest in telling her why he had lowered her daughter's reading level. Her child was originally in another class where she was told that her child's reading level was *"very high at level 13"*. Citing low comprehension as a cause and with the latter teacher being Samoan, the mother was happy that she was able to understand where her daughter was at and the rationale behind lowering her child's reading level.

> ...ae ua ou fiafia…aua o le palagi…ua aumai i le Samoa la'u kamaikiki, fai mai le faia'oga lea, 'e sa'o e lelei le faikau kusi, e avaku ua i luga i level 13, ae vave le faikau ae le o malamalama i le mea lae faikau ai. O lea ga gofo ai ma koe ku'u i lalo [sobs] O lea ua fiafia ai, fa'amalie aku....
>
> [Translation] *...but I was happy ... because [the previous teacher] was a Palagi... now my child is with a Samoan [teacher] and he said, it's true her reading is improving and that when she came [to me] her reading was at level 13, but she reads fluently but does not understand what she reads. This is why I put her down another level. I was happy then. Please excuse me [sobs]…* [Parent]

The mothers believed that their support roles were vital and reciprocal in relation to the school and their children. In that sense, the work of the majority of parents, although indirect, could be seen as another form of connection to understanding the child as a 'holistic' being.

Inquiry processes and collective efficacy

The theoretical prediction here was outlined for Case Study 1. The school analysed school-wide data to monitor student progress, and identify and target needs in view of the fact that the Principal believed that using data to inform teaching was what had raised achievement of their students. Additionally, teachers, as part of their professional inquiry, tracked the progress of the Pasifika students in their classrooms and used the data to firstly identify needs and next to determine strategies to put in place for modification of their teaching practice.

> *Like we look at data and we are able to sort of analyse the data and pick out, identify the weaknesses, identify those kids who are doing really, really well, and then talk about the types of strategies that we could put in place to support those kids…With the data that we get back…that we collate from the research centre, seems to come back and then broken into the ethnicities. Now, we get that information there, but we also do it at a school sort of level where teachers have, in their classrooms, they've identified all the Pasifika kids in their class where they're sitting at the moment...it's almost like a tracking form for Pasifika kids, showing their progress... it's like a chart, a graph chart that sort of shows the movement or the progress that these kids have made within that sort of 12 years…So that's been a really great strategy, the work that we've done through [the Schooling Improvement cluster], the literacy and numeracy and PART work that we've been doing, our involvement in that, and understanding data more, and looking in closely at data, and moderating writing samples. I think that has been a great strategy because that has allowed great consistency for school but also it's allowed teachers to understand strategies to support Pasifika students.* [Principal]

The Principal and the Lead Teacher's claims that the initiatives have been very effective for Pasifika students were backed up by specific evidence in the interview:

> *What we've noticed in our school is that… back in 2004, a lot of our students were sort of hovering around stanine 1 to 3, and when you look at the results today, a lot of the students are hovering around stanine 4, 5 and 6… [for literacy] as well as numeracy, yeah, we've seen huge gains in our student achievement.* [Principal]

The Principal and Lead Teacher believed the improvements were due to the consistency in the approach taken by the school in the strategies that have been applied in the classroom. This view is well supported by the classroom observation.

> *I think the effectiveness comes from the fact that we participate in the PD [professional development], we participate in the clustering and then it's brought back to school and it's followed up, so we don't just go to the PD, come back, that's done, out of the way…what happens is we come back together, we plan and how that PD is going to be effectively implemented in our classrooms and it happens on a school-wide basis, so everybody is doing and saying the same thing.* [Lead Literacy Teacher]

The school has programmes in place to help socialise new teachers into the school's programme. For example, through the cluster-wide initiative, an induction programme is provided for new teachers to the area and where Lead Teachers spend time explaining how the programmes operate in the school. In this sense there is a clear professional learning community dynamic at play where 'novices' are initiated into the roles and values of the community. To retain good teachers and encourage the standardisation of teacher

knowledge within the cluster and its schools is an approach that the Ministry of Education might consider a positive move.

Like the views of parents and community involvement, the inquiry process for connectedness is not static. The school is constantly examining data in addition to testing new ideas and solutions. For example, the focus for the future is to link up the new Pasifika Education Plan with what the school has already implemented and to consider more closely how to incorporate more inquiry learning into the classroom.

> *… the new Pasifika Education Plan that's come out, trying to tie that into what the school is all about. So how it links back to the, our strategic plan, so we try to link a lot of good work, that all the strategies or the key ideas from the Pasifika plan into the school strategic plan.* [Principal]

Quality instruction that is culturally responsive

> *Our theoretical view was outlined for Case Study 1. The Leadership team's views are somewhat contradictory. On the one hand the Literacy Leader claimed that although the majority (75%) of the students were Pasifika the programmes were not Pasifika specific:*
>
> *[Since] I've been here, there's nothing specifically focused on Pasifika students, but I mean the bulk of the students are Pasifika students so, what seems to work here is working for Pasifika students.* [Lead Literacy Teacher]

But, as noted above, there were specific strategies in place both in the connectedness with communities and in the inquiry processes in the school that reflected a keen sense of adapting and being responsive not just to Pasifika generally but to specific groups. This may reflect a general problem in the concepts of pedagogy that schools are confronting, which is to resolve professional development views of generically effective instruction with what is effective specifically with the cultural groups represented in the school. With the clear and weighty involvement of parents and the community, the school is arguably being cautious so as not to be seen as favouring one particular pedagogy over the other for specific groups. Clearly, the Lead team are aware of the need to build inquiry more into the pedagogy of the school, as noted earlier, and this is not seen as inconsistent with a need to be responsive to the specific backgrounds and cultural values and resources of students. Our argument for the resolution is given in the Introduction.

The observations of classroom instruction provided ratings of instruction using the empirical and theoretical literature (including attributes of cultural responsiveness). A summary of all the observations across schools is contained in Section 6. It shows several things. The first is that there was little relationship between individual teachers' scores and achievement levels or gains in any year. Nevertheless, the observations also show that there is a pattern in which greater coherence between the (only) two teachers observed in any one school, coupled with the overall quality, was associated with greater effectiveness, which supports the school-wide focus on coherent instruction in this Case Study. Secondly, while there were differences between teachers, teachers who score high in one area tended to score high in other areas. That is, 'good practice' teachers were good across the board.

The two teachers observed at Case Study 3 school (T1 and T2) had the highest scores of all observed teachers across Case Study Schools - essentially near perfect scores on all categories (T1, $M = 91.0\%$ and T2, $M = 98.6\%$). The percentages averaged for the three lessons are shown in Table 49.

Table 49: Mean (Percent) Observation Scores for Case Study Teachers from Case Study 3

	Classroom Features %	Instructional Dimensions %					Cultural Responsiveness %
		Talk	Knowledge	Strategy	Vocab	Feedback	
T 1	94.4	83.3	100	83.3	83.3	88.9	100
T 2	100	94.4	100	100	100	94.4	100

As noted in the overall results for the classroom instruction, the scores do not provide very good indicators of specific gains in specific classrooms, even over three lessons (see Table 50). But consistent and high ratings of the instruction appear to be associated with the overall levels of the schools' achievement and the gain over one year. This school had highest overall levels of achievement in 2008 (above stanine 4.0) and made an above expectation gain in 2008 (M = 0.34 stanine gain).

Table 50: Gains in Classrooms (T1 and T2) over Two Years and overall School Achievement in 2008: Case Study 3

Teacher	Total %	Mean %	Class Achievement[1]			School Achievement[3]							
			N	Pre-test 2008	Post-test 2008	N	Pre-test 2007	Post-test 2007	Gain	N	Pre-test 2008	Post-test 2008	Gain
T1 (Y4-5)	91.0		11	3.82	5.00								
T2 (Y5-6)	98.6		16	4.94	4.44								
T1, T2		94.8											
School						56	4.30	4.54	0.23	64	4.06	4.41	Above[2] (0.34)

[1.] STAR mean stanine.

[2.] Above expected gains (EG = 0).

The transcripts for these two teachers are models of 'best practice' instruction. As noted above they have near perfect scores across Classrooms Features, Instructional Dimensions and Cultural Responsiveness. The dimension of Cultural Responsiveness was strongly present as recorded by the observer – a dimension associated with successful secondary schooling for Māori students (Bishop et al., 2007). In part, this was made possible by the selection and use of particular texts. The two teachers drew on familiar artefacts (e.g., colour of the Tongan flag) and experiences (e.g., a barbecue at beach with Church) to activate and build vocabulary, background knowledge and thematic understandings in both poem writing and reading comprehension. In addition, observer notes include comments on how positive, respectful, and reciprocal the relationships were. Teachers were very accepting but not at the cost of being uncritically affirming. One interaction captures this in the context of vocabulary building and strategy use (clarifying/predicting/using context) as an example of accepting but correcting meanings.

> *Can you find the word 'fossicking' for me, halfway down, 'fossicking'. What do you think it might mean? Can you find the word 'fossicking' for me? In that fourth paragraph down it says, mum says I could have the... Caleb, he began 'fossicking' through a cupboard in the garage...*
>
> - *Searching*
> - *Could be...*
> - *Stomping...*

Could be stomping, now stomping through a cupboard in the garage?

- *Searching through the cupboard*

Yeah, Searching through the cupboard... so 'fossicking' just means moving stuff around and looking, searching, I'm afraid not stomping. You'd have to be quite a big cupboard for that. Right okay...

In summary, the two teachers at this school were excellent teachers as judged by the scores for three areas of their instruction. This was associated with high levels of achievement in their classrooms, and at the school. These consistently high levels may be the critical finding. The school's success may be at least in part attributed to consistently high levels of instruction contributing to the presence of 'instructional coherence' (Raphael et al., 2006).

The students' views about teachers and their instruction

Thoughts about the teacher

The students' comments confirm these features of instruction too, and elaborate on the styles which were well matched to their needs. Their comments were uniformly positive, typically describing the teachers as *"good"*, and *"cool"*. A strong emotional relationship was identified:

Oh my teacher is like my mum, she's way better than my mum actually. She helps me out, she only growls me 'cause so I know what I'm doing wrong. She's like a really good teacher. So I love her like she's a mum as well.

The teachers were seen to use humour as one device to express this. Each of the students referred to their teachers in some way as using this device and being fun.

This sense of belonging was coupled with instruction that was challenging, direct and explanatory. Two students appreciated the way their teacher helped them to understand and teach them new things, such as different ways to solve maths problems and to speak in *"full sentences"*.

She can help us in many different ways like if we're stuck on a maths problem, she tells us different ways to solve it or a faster way to solve it, and writing, we always stick in worksheets, like a structure, and then when we look at our work and we don't know what to do, we just flip back to the structure to look at it.

One student said she understood why her teacher *"growls"* sometimes when the other children won't listen because it makes her "*frustrated"*. Another said her teacher is *"smart"* and *"good at maths too"*. She likes the way her teacher teaches her, particularly the way she explains things and makes difficult things easier to understand. Yet another student expressed these balanced attributes believing her teacher was *"tough"* but *"good"*. She thinks that her teacher probably holds high expectations for her students. Another girl said her teacher is *"really funny"*. She likes the way he helps when they get stuck on something and helps them to understand what they are reading. She understands that her teacher has high expectations for them:

He treats us very nice and he respect[s] all of us and he says that when he growls us, he is growling us because he cares for us and he wants us to work hard so we can be good and we can go to university.

Another girl likes the fact that her teacher gives them the *"learning intentions and the success criteria"* and that she gets to learn new things. She particularly likes the way her teacher helps them to learn new words and find their meanings in the dictionary.

It was not just girls who expressed this combined view of positive affect and rigorous, challenging but explicitly supportive instruction. Two boys said the teacher was *"cool"* and thought the teacher was great because *"she pushes us hard so that we could earn a scholarship, because now that it's intermediate, it's going to get harder for our subjects to go higher in our standards."*

Another boy liked the way his teacher teaches, especially the way she provides them with the *"success criteria"* for a lesson as this makes it *"more easier for [him] to understand"*. He thinks his teacher is really good at teaching maths and reading. *"She reads with us and she keeps on going until we understand"*. The boys could be very specific about the instruction: one liked the way he is taught reading and narrative writing. He likes the way his teacher gives them challenging tasks because it helps him to learn. He would like to learn science so that when he gets to college he will know how to do it.

One of the girls said that her teacher is "*cool"* but he is also *"sometimes a bit mean"*. Despite this, she thinks he's funny and enjoys the extra homework that he gives them if they've got nothing to do. She likes the way she is taught. She believes her teacher is doing his best *"to help us get to university"*. He helps them to learn and he helps them to focus: *"when we are not focusing he says that we have to say the word 'focus' so that we can focus on our work"*. She also likes the fact that her teacher lets them play on the computers and the smart board when they are good and at lunchtime. Her teacher also encourages them to *"get active instead of just being lazy"*.

Perhaps not surprisingly, given these comments, the students all said they wanted to learn more. One said she wanted to learn about science, and *"how to make an explosive with chemicals, so I know what I can do and when there's something wrong I can just figure it out."* Another wanted to learn *"different kinds of languages"* especially French, so that she can *"talk different languages to people who don't speak English and I can know what they mean"* and Samoan *"cause a lot of people around here are Samoan and they talk a lot of Samoan"*. And she would also like to spend more time on maths. One of the boys would like to learn more about *"how does life work"* and science. And in his terms, to succeed further in his education, he would like to learn more maths.

A final statement of this multifaceted view is given by one the boys: *"He's like the bestest teacher I ever met in the whole world."* What he liked best at school is learning new things—*"information and facts*". He likes the way his teacher shares the learning intentions and success criteria with the class because that helps them to learn. He also likes the way his teacher provides clear instructions so that everyone knows what they are expected to do.

In summary, there is a description emerging from this school of instruction that is challenging, explicit and very rich, and this is coupled with a close positive relationship which means that the students both respect and appreciate their teachers, often through the device of their teachers' humour. The instructional dimensions and the cultural responsiveness as observed in the classroom lessons are validated by the students' views of their teachers.

Pasifika learners

Language features

In the general analysis in one Focus Cluster (with Years 4 - 9) and when looking at gap differences we found that language, either first language or language at home was not associated with achievement. However, when looking at level differences (that is differences in overall level achievement), we found that there were four main effects - gender, time lived in New Zealand, home language, and school - that were associated with significantly different levels of achievement. Overall, the mean scores for students that spoke mainly Pasifika languages at home and those that spoke two or more languages (Pasifika language as well as English) at home were significantly lower than that for the mainly English-speaking students. The general analysis results are reported in Section 3.2.2 and Table 51 provides a summary of the language spoken at home.

Table 51: Stanines by Language Spoken at Home (Case Study 3)

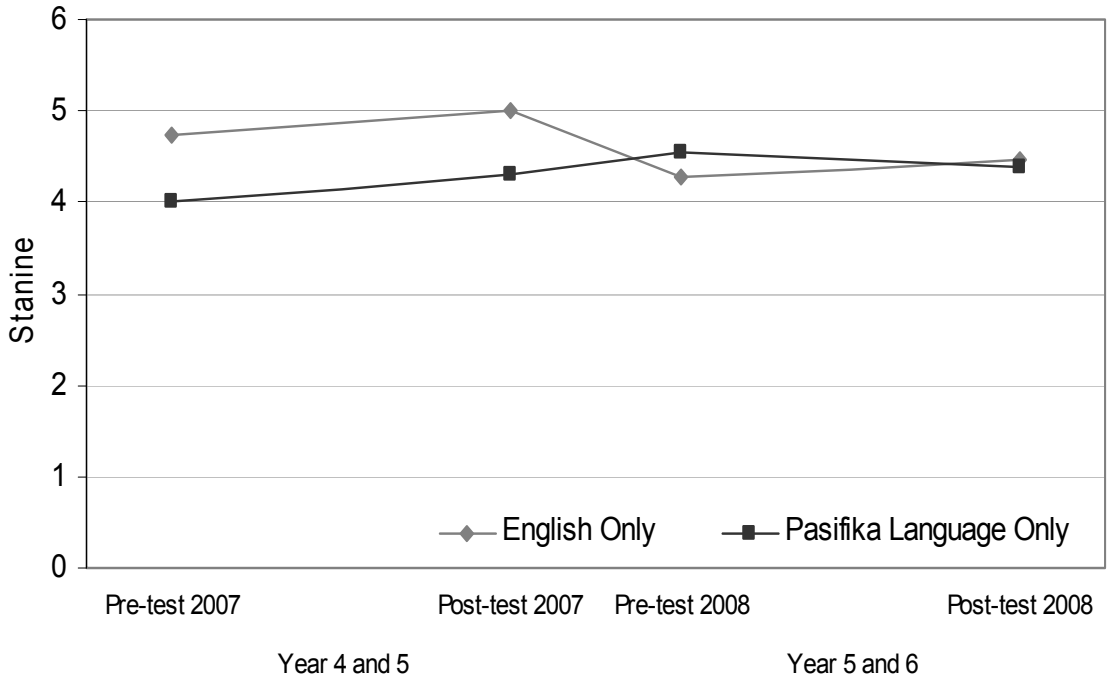
Language spoken at home		2008		
		Pre-test	Post-test	Stanine Gain
English Only				
	M	4.04	4.57	0.54
	SD	1.45	1.00	1.37
	n	28	28	28
Pasifika Language Only				
	M	3.79	4.05	0.26
	SD	1.47	1.31	1.48
	n	19	19	19
Pasifika and English				
	M	3.80	4.60	0.80
	SD	1.92	1.67	0.45
	n	5	5	5

The longitudinal patterns in this Case Study school provided further indicative data on developing bilingual status (see Figure 23 and Table 52). Those students who had a Pasifika language as first language were by Year 5 resembling in their achievement those students who had English only, a finding consistent with other developmental analyses of bilingual development (Amituanai-Toloa, McNaughton, & MacDonald, 2007).

Table 52: Stanines by First Language Spoken for Longitudinal Cohort (Case Study 3)

First language spoken		2007			2008		
		Pre-test	Post-test	Stanine Gain	Pre-test	Post-test	Stanine Gain
English Only							
	M	4.73	5.00	0.27	4.27	4.45	0.18
	SD	1.01	1.18	1.01	1.01	0.82	0.60
	n	11	11	11	11	11	11
Pasifika Language Only							
	M	4.00	4.31	0.31	4.54	4.38	-0.15
	SD	1.08	1.32	0.85	1.33	1.26	1.46
	n	13	13	13	13	13	13

***Figure 23*: Mean stanine by first language for longitudinal cohort (Case Study 3).**



Education in the New Zealand system

It could be predicted that greater familiarity with New Zealand educational practices (which is almost always confounded with immersion in English instruction) would be associated with higher achievement. This was evident in the present school. We found that students born in New Zealand (see Table 53) had a higher mean stanine at all time points (M = 3.95 (Pre-test) and M = 4.46 (Post-test)) than students born in a Pacific country (M = 3.73 (Pre-test) and M = 4.18 (Post-test)). Students born in New Zealand made a greater mean stanine gain (M = 0.51) than students born in a Pacific country (M = 0.45). This was contrary to the general finding where the length of time lived in New Zealand was associated with different levels of achievement. The mean scores for those that lived in New Zealand for more than five years and those that were born in New Zealand were significantly higher than those that had lived in New Zealand between one and five years.

Table 53: Mean Stanines by Birth Country (Case Study 3)

Birth country		2008		
		Pre-test	Post-test	Stanine Gain
Pacific Region				
	M	3.73	4.18	0.45
	SD	1.56	1.17	1.51
	n	11	11	11
New Zealand				
	M	3.95	4.46	0.51
	SD	1.47	1.23	1.30
	n	39	39	39
Other				
	M	4.5	4	-0.5
	SD	2.12	0	2.12
	n	2	2	2

The general interpretation of this finding is supported by examining the patterns for students who had spent differing amounts of time in New Zealand. Students who were not born in New Zealand but who had lived in New Zealand for five or more years had higher mean stanines at all time points than students who had lived in New Zealand between one and five years (see Table 54).

Table 54: Mean Stanines by Time in New Zealand (Case Study 3)

Time in New Zealand		2008		
		Pre-test	Post-test	Stanine Gain
1 - 5 years				
	M	3.22	3.89	0.67
	SD	1.39	1.05	1.58
	n	9	9	9
> 5 years				
	M	5.25	4.75	-0.50
	SD	0.96	0.96	1.29
	n	4	4	4
Born in NZ				
	M	3.95	4.46	0.51
	SD	1.47	1.23	1.30
	n	39	39	39

Student views

Further evidence of engagement in the school, connectedness with families and the role of students can be gathered from students' views regarding their aspirations and how they believed the school was motivating them towards their life goals. As noted above, the students viewed the teachers and the Principal in a positive light. Here we add their overall ideas and beliefs about school and their aspirations.

The students had big dreams for their future including being an "*air hostess*", *"a lawyer"*, *"an actor and a singer"*, *"a chef"* and, without having any specific occupation in mind, being *"good at maths"*. Each of the children believed that school is helping them get closer to achieving their dreams.

An interesting additional feature which may also be seen as a Pasifika dimension of their learning was the sense that learning would involve service. The student who wanted to be a chef said partly this is because she gets to help out the *"the people who do the special lunch orders"*. More directly, one of the boys said he wanted to be a billionaire so that he can *"give some [money] to charity, and to the poor, and give some to my family"*. He believes that he needs to *"get high standards*" at school and *"try to get to high school so that [he] could get graduated and get a job"*. One of the girl's big dreams is to become a missionary and *"travel around countries, and tell people about the church and how they have to respect people."* But before she becomes a missionary, she would like to go to university. She believes that her schooling is helping her to achieve her dream through learning about reading and writing, and improving her understanding. One of the boys said very formally:

> *My opinion about school is that it's a good place for children to learn so that when we grow up we will get better education and earn money for our families.*

Each of the students liked being at school because it was connected with their family life: "you can learn heaps and go home and tell your parents about it", "you learn [even] more than what you learn at home".

One girl said "I don't like to miss school even if I'm sick. This school makes me feel safe and I love the school more than my family." Another thought school is "very cool, cause you get to learn lots of good things. You get to know other things that you didn't know before, make new friends." She is happy to come to school because if she were to stay at home she would have nothing to do.

One of the boys even preferred school to holidays. He likes coming to school for the learning. He likes to read books and learn different subjects. He especially likes physical education and writing.

The students were mostly happy about the other children at school. For one student this was because many of her relatives also go to the school, although sometimes she doesn't like to be around the other children at school because they are *"back stabbers"*. The sense of peers being appreciated who were similarly focused on learning led to both positive and negative comments. One liked the other students because they help her out, but another was not so keen on the ones who talk about things other than their school work while they are in class. Some of the children in her class are *"really smart"* and she would like to be like them.

The students' discussion about homework had four features which illustrate further their commitment to learning and add to the earlier descriptions of preferred pedagogy. One feature was that they often did homework daily and secondly they enjoyed doing this. Two professed to *"love homework"*, not the least because it provides an excuse to get out of doing household chores. Other reasons given for liking homework were that *"it's just fun, something to do after school"* and *"it makes me know that I am brainy"*. The students do their homework most often soon after they get home.

The third feature was the involvement of the family in supporting homework, directly through guidance and in terms of resourcing and hence parental/family involvement which impacts on academic skills. The type and degree of support interestingly was often controlled by the students. One student said she always did her homework by herself while she usually works with her cousins or, if they get stuck, they get an older cousin or a parent or aunt to help out. These students did their homework in their rooms or sometimes in other places such as at the computer, in the sitting room, the car, or the library.

The fourth feature was a concern that it be meaningful and challenging homework. One student said she was not too keen on the easy homework. She usually does her homework when she gets home from school; it takes her about half an hour to complete. She works in her bedroom and does her homework on her own when others in the house are busy and it is noisy. When things settle down, if she needs to, she asks her mum or her older brother to help her.

Even though one boy said he found the homework hard at times, he still liked it. He usually does his homework when he gets home from school, either in his room or with his mum. He often spends about 2 hours doing his homework but that doesn't bother him. Indeed, he would welcome more homework *"so he can follow his dream"*.

One boy didn't want too much challenge; he doesn't like homework sometimes because he finds it difficult, especially some of the maths homework. He attends a physical activity after school programme so he does his homework when he gets home after the programme. When the homework is hard it takes him up to an hour to complete, but he doesn't always complete all his homework on one night. His Mum helps him with his homework: *"but she doesn't really give the answers, she just makes it easier for me."* He usually does his homework in his room but sometimes he works in the sitting room.

Two of the girls said they usually spend about 20 minutes on homework, and like other students they do this before other commitments. Again the sense of family involvement was highlighted. She sits near her parents

to do her homework, usually at the table so her mum can help her while she is cooking. The sense of being in control and determining the type and level of help is given in the following comment by one of the girls: she sometimes asks her parents or her sister to help her with her homework but "*not give the answer, just help"*. She tries to do her homework by herself. She likes to work somewhere quiet, in her bedroom or sometimes in the kitchen. Similarly, one of the boys said his mum sometimes helps him with his homework in which case he works at the table. Otherwise he works in his bedroom.

The students did not have a long list of changes they wanted made; they mostly felt the school was doing a good job. The most consistent change wanted was in the attitude of some of the other students and lower levels of bullying.

Their views about the language of instruction and the match with their languages were mixed. A Māori/Cook Island student said she would prefer to speak Māori in class, although this child prefers her teacher to speak in English when she is having difficulty understanding. One Samoan student thought that having things explained in Samoan would be helpful sometimes when things are difficult to understand, while another Samoan student was happy for her teacher to speak in English all the time, even when explaining difficult things. However, the latter noted that her teacher often gets her to speak in Samoan to other children when they don't understand. Several others preferred English to be spoken in class, even when they may have difficulty understanding.

3.3.4 Case Study 4

Overview of the school

This decile 1 secondary school has had a particular focus on Māori students and has only recently turned its focus also to Pasifika students. Pasifika students at this decile 1 secondary school achieve somewhat below national levels (see Table 55). Overall achievement at the school at the end of Year 9 for Pasifika students on asTTle reading comprehension was 523.36 (national expectation 634) and at Year 10 it was 594.78 (national expectation 728). It would be expected that from the end of Year 9 to the end of Year 10 students would gain 94 points. Overall Pasifika students at Case Study 4 gained mean = 71.42 points from the end of Year 9 to the end of Year 10. The 'Other Pasifika' group was the only group who made close to the nationally expected gain in asTTle points (M = 93.67).

The total Pasifika group at the school overall is around 35%. The breakdown for the Year 9 and 10 groups we examined was Samoan 60%, Tongan 14%, Cook Island Māori 8%, Niuean 8%, Fijian 8%, and 'Other Pasifika' 2%. More than half (67%) of these students had English as first language, with Samoan being the next most common first language (15%). Of the total Pasifika group, more than two thirds of the students (71%) had been born in New Zealand.

Table 55: Mean asTTle scores by Ethnicity for Case Study 4 Year 9 to Year 10 cohort[1] Pasifika Students

		Pre-test 2007	Post-test 2007	Post-test 2008
Tongan				
	M	468.14	545.71	621.71
	SD	35.33	65.23	104.79
	n	7	7	7
Cook Island Māori				
	M	468.25	598.00	662.75
	SD	39.63	73.23	101.30
	n	4	4	4
Samoan				
	M	454.50	512.70	577.27
	SD	54.45	74.44	91.21
	n	30	30	30
Other Pasifika				
	M	457.67	508.33	602.00
	SD	73.93	112.40	92.33
	n	9	9	9
Total				
	M	458.08	523.36	594.78
	SD	54.10	82.64	94.69
	n	50	50	50

1. These students were Year 9 in 2007 and Year 10 in 2008.

Connectedness – community and school

Our theoretical prediction was outlined for Case Study 1. Both the Principal and the Head of Department (HOD) were clear that there was more work needed to involve parents. Specific parent groups were formed but haven't lasted. Mostly parents were involved in receiving school information; for example, the parents are involved in parent teacher evening where data is represented and shared and interpreted. Specific information provided included explaining the assessments (asTTle) and the HOD commented that an outcome would be that parents would become more involved in assessing the improvement of their children. There had been a barbecue with the Samoan students attended by the parents but the need expressed by the Principal is to capitalise on that success across terms to boost involvement in the information sharing meetings. The most successful involvement at school is not through these information sharing sessions but rather through the Auckland Secondary Schools Festival (Polyfest). There is keen involvement with large attendances at schools and at the festival.

The parents are seen as being key to a substantial problem in attendance which is particularly marked in the upper school years. Though the feeling (according to the school) is that the poor NCEA results are at least in part attributable to the erratic attendance, which is due to family commitments, it is clear from the parents' keen involvement in the Polyfest that this is the primary involvement they might have with the school given its relevance to their culture and language.

The school has appointed a new deputy Principal who has, as part of his portfolio, the task of developing Pasifika parents' roles. The meeting formats are being trialled, and the Pasifika teachers are involved in reaching out. The meetings are late afternoon and early evening with food, and the content is an important educational topic.

One of the new initiatives is a bilingual Samoan programme in Years 9 and 10, which if it develops like the Māori bilingual programme will enable strong involvement to occur which they have found is associated for

the Māori group with higher achievement. It was not clear from the interviews about what the specific roles in the involvement might be. But the Principal commented:

> *I haven't got the parents yet in the way we have been able to win over Māori parents to a bilingual programme. They have got a different view of education, but it is something we are working on.* [Principal]

Other strategies are planned which increase the familiarity and welcoming properties of the school, such as individual telephone invitations to meetings, and the building of a Fale. Teacher aides who are members of the Samoan community help in classes. However, they were identified primarily to provide support for teaching, rather than because they were members of the community coming into school.

Parents' views

Of the twelve parents identified by the school to be interviewed, only two parents managed to keep the talanoa times, the others citing family commitments. This highlights the concern the school has about attempting to 'win over' Pasifika parents. Although the views and beliefs of parents who were able to be interviewed are reported here, they should be interpreted with caution given the small number of parents involved.

The talanoa sessions revealed three outcomes that parents believed were important to their child's life. These are a good education, a good life and good employment. They mostly stressed involvement as support and motivation. They believed the school was catering to their needs through 'looking after' their children. One parent explained:

> *To you know, them to have good education, good life, good work you know look after their family, that's, that's my dream. But yeah I'm, I'm so happy at [school name]. They look after my children and they were good.* [Tongan father with a Samoan mother]

This might support what the Principal meant by, 'they have a different view of education'. Whilst in a sense, this parent by his comments might have given the Principal a view that the school is a caregiver and not an educator it is important to interpret this from the parent's point of view. He stated:

> *…the school is very helpful because we have two children that are at Universities at the moment. Yeah all my children that went to the same school, they okay. Yeah they're alright.*

He acknowledged that the school is working on improving their understanding of the intentions of the parent, but was very happy with an emphasis on the caring role:

> *You know that's why I think that they really care. But the kids, because if um, we forgot, if they sick or we are busy doing something else and forgot probably 11 o'clock, 12 o'clock the phone ring and it's the teacher, we say sorry, we forgot to ring up, she's sick and we forgot to ask the other big girl, she always go to school to ask the teacher if she is not in.*

Furthermore, the evidence that the other two children had already been through the school successfully resulting in obtaining scholarships are also noted by parents as part of the holistic viewpoint:

> *The school is alright but if you go there as a good kid, I mean as a good person, the school will be alright. And that son encouraged the other one who's in university now. He got… he had… 5 years… 5 year scholarship over there and that is his you know, when he got the scholarship 2 or 3 years ago aye.*

The first parent believed that the support they had given all their children is through encouragement and by physically taking them to school to make sure they attend.

> *The three that we already, we just encourage them and plus and we take her after school, make sure they are at school. I don't know exactly what we… But we'll support in what she want.*

The other parent believed that his child should be equipped with life skills, hence he supports his son in martial arts, music and animation, noting that animation is the child's strength. Little support is given to schoolwork.

> *He is a gifted boy. See what he's done [showing his son's animation work]. He did it all by himself and he's gifted in this area…and the belts he got from karate…So I support him in all these because I believe that if he doesn't achieve at school at least he's got another pathway to go.* [Parent]

Despite the strong sense of supporting the school, when asked what he thought the school might offer to ensure his son's dream is fulfilled he did refer to more specific achievement and progress information:

> *I don't know. I only get the report at the end of the year so I can't help him because then it's too late. I wait to see where he's at every term.* [Parent]

> *Another talk I said no, no son, no, not you. You go to university and you got a scholarship, we can't afford to pay you. You got to go on a loan. The scholarship to pay for everything.*

Inquiry processes and collective efficacy

The theoretical prediction was outlined for Case Study 1. There was evidence from the interviews with the Principal and the HOD that collecting, sharing and using evidence from achievement data occurred. There is a cycle of repeated assessments and patterns of achievement aggregated for the Pasifika group were well known. But it was unclear how much of the school's practices which specifically involve inquiry and developing shared efficacy from the inquiry occurs. The HOD was concerned that not enough was known in the school about the learning needs of students and that there was a need for more professional conversations with other experts who have research evidence about "how Pasifika students learn best". The HOD was very aware that the best vehicle for this was the professional learning community which is inquiry focused. She used an example from her own hypotheses:

> *Where people say look this is the data that we have, this is our understanding of the kind of what's going on for those students in your classroom and why they might be sitting there and it looks like they are taking it all in, but actually they are not asking questions because they are not comfortable asking question and I think that is one of the issues personally I have come across with Pasifika students. They don't want to ask questions, they are still not quite sure I think about the teacher student relationship and they have been taught there is a bit of a separation and that the teacher, Pasifika students in general I think are quite respectful, but almost too much in a way.* [Head of Department]

The HOD noted the need to have more targeted professional development about the needs of Pasifika students and for that to be held with departments. The new 'Professional Leaning Centre' lead by a coordinator was seen by both the Principal and the HOD as a vehicle for building the professional learning communities within the school. The Principal's comment above about the attendance suggests that some of the challenges in raising achievement are seen as located in the community, although the Principal was very

explicit that the key focus in the school was on teaching and more effective instruction, especially for literacy.

Quality instruction that is culturally responsive

The theoretical prediction was outlined for Case Study 1. As with other schools, the Principal and the HOD had a generic view of effective instruction for Pasifika students.

> *Given the large number of Pasifika students that we have in the school, [our programmes] relate directly to them even though they weren't specifically designed for Pasifika students.* [Principal]

> *I don't think that specific literacy strategies geared to Pasifika students are in place…we tend to gauge prior knowledge (and other strengths and weaknesses) vocabulary is a particular area …because of their NESB background… and also inference.* [Head of Department]

The view of the HOD was more differentiated as could be seen in her description of the effects of Te Kotahitanga. As in the other secondary case study school, the Te Kotahitanga programme had been present in the school. The school's facilitator was one of the teachers taking the Samoan classes at Year 9 and 10. The Principal and the HOD had differing views on its effectiveness with Pasifika students. The Principal felt it was equally beneficial, while the HOD's view was:

> *We are actually finding with the empirical data that Pasifika students are very different in the classroom in terms of how their cultural experience relates to a classroom situation, very different for the TK kind of approach which tends to work very well with Māori, but also very well I think with European students.* [Head of Department]

The HOD also identified specific areas of cultural knowledge and values, including a description of Pasifika students finding it uncomfortable being focused on and preferring to not stand out or be seen to be too proud.

Both the Principal and the HOD viewed specific instructional strategies including the major development of the bilingual classes as core to effective teaching for Pasifika students. Examples of the former included small class sizes, deliberate hiring of Pasifika teachers and the support for teachers to gain TESOL training and then using them to work on the language needs (including vocabulary).

Table 56: Mean Observation Percentage for Focus Teachers at Case Study 4

	Classroom Features %	Instructional Dimensions %					Cultural Responsiveness %
		Talk	Knowledge	Strategy	Vocab	Feedback	
T 1	72.2	91.7	75.0	66.7	58.3	80.0	55.6
T 2	84.9	38.9	55.6	66.7	38.9	61.1	66.7

In terms of the observations in classrooms one teacher had a relatively low total score (T2 = 62%) while the other had a higher total score (T1 = 71%). As noted in the overall results across schools for the classroom instruction, the scores are not very good indicators of specific gains in specific classrooms, even over three lessons. Although in this school, T1 had substantially higher reading achievement than both the other teacher's class and the overall Year 9 Pasifika students' averages. However, there were only three Pasifika students in her class. In general across schools, however, the single teacher ratings of the instruction appear to be associated with the overall levels of the schools' achievement and the gain over the most recent year, 2008. The overall average score for the two teachers in this secondary school was the lowest across the four

schools (*M* = 66.2%) and this school had the lowest gains generally among the four Case Study Schools. At the end of the school year in 2008, the mean asTTle reading score (554.89) equates to curriculum level 3A. Pasifika students in Year 9 at this school made a below expectation gain in 2008 (asTTle reading mean gain = 97.10). See Table 57 for the summary.

Table 57: Mean asTTle reading score for (Year 9) Focus Classes and School at Case Study 4

Teacher	Total %	Mean %	Class Achievement[1]			School Achievement[1]							
			N	Pre-test 2008	Post-test 2008	N	Pre-test 2007	Post-test 2007	Gain	N	Pre-test 2008	Post-test 2008	Gain
T1 (Y9)	70.8		3	510.00	658.67								
T2 (Y9)	61.6		22	458.68	554.55								
T1, T2		66.2											
School						57	453.12	517.39	64.26	90	457.79	554.89	97.10[2]

1. STAR mean stanine.

2. Below Expected gains = 117, but levels similar to nationally expected levels.

It is interesting to note that these two teachers had relatively low scores for cultural inclusiveness, which may reflect the more generic view espoused by the Principal. For both teachers the observation notes indicate high scores for the relationships dimension (with some humour) but low on examples of incorporation of students' cultural and linguistic resources. In keeping with the focus on designing the most effective instruction, in T1's lessons there were many instances of analysis and explicit teaching of language features and structures (such as how words convey opinion versus fact in writing), with a focus on technical terms (such as prepositions; definitions of 'fact' and opinion'). T1 also had very high scores for High Level talk (there was an extended sequence around the question asked by a student: "Why do you do lateral thinking?") and Feedback, perhaps reflecting the influence of Te Kotahitanga. But this was not the case in the second teacher's lessons.

The students' views about teachers and their instruction

Thoughts about the teacher

All students believed that their education is "going well". In one class, students enjoyed all their subjects except Maths which they put down to the teacher being unreasonable. When asked why they thought about the teacher that way they said two things: that the teacher had high expectations and that she doesn't explain things. When the same students were asked what they thought the best solution was, they responded by referring to two features. One was the cultural responsiveness dimension to do with positive respectful relationships (to be nicer and warmer and have fun). This is important because the criticism adds to the previous descriptions by primary children that a feature of the preferred pedagogy is the use of devices for conveying positive affect such as humour. The other feature made reference to enabling elaborative talk and inquiry by the students.

Nah she's just like…strict all the time and she doesn't let us talk once

She doesn't let us talk, she doesn't let us

You can't speak to her… and we can't ask questions because she's too scary

She doesn't let us speak to each other. She says that we have to be like really quiet

She never lets us have a little bit of fun like the other teachers

Their definitions of a good and effective teacher reinforce the dimensions and attributes examined in the observations. A teacher has to have 'humour'; has to respect them in order to be respected, has to understand the students, does not talk too much, and teaches in a rigorous way:

Is open and funny

Has a humour when teaching like…

Isn't really boring…yeah…kind of strict

And doesn't talk too much…yeah

Yeah, yeah …respect and respected

And a teacher that understands us

Yeah [teaching] hard out

By contrast other teachers, "They make it fun. They make learning fun", and interestingly used devices such as shared histories to personalise instruction: "Um…Um…telling us about how they learnt what we learnt today when they were younger".

The issue of non-attendance was raised by the students linking it to boredom and being classroom bound:

More outdoor…like practical – instead of just being inside the class all the time

It's good but sometimes it gets boring and we get restless and we don't want to come back to class and heaps of kids wag

Pasifika learners

Language features

The theoretical prediction here was outlined for Case Study 1. Language features and their relationship with achievement were examined in a two-year longitudinal cohort who were Year 9 in 2007 and Year 10 in 2008 (n = 19). In some analyses of ethnicity and language patterns these students were augmented by those students who were Year 9 in 2008 and had beginning and end of year asTTle scores (n = 54). These are very small sample sizes and these analyses should be read as indicative and interpreted with considerable caution.

The patterns are very difficult to relate to the general analysis. In terms of rates of gain ('gap differences') there are different patterns in different years. In terms of level differences students with English only at home were consistently higher than others but there were only two students who identified both Pasifika and English being used at home.

Education in the New Zealand system

It could be predicted that greater familiarity with New Zealand educational practices (which is almost always confounded with immersion in English instruction) would be associated with higher achievement. This was found in the overall analysis. Due to the small numbers in this case study school a simple summary is not possible. We found that being born in New Zealand was associated with a higher asTTle level score or gain

(see Table 60). This was complementary to the general finding whereby the length of time lived in New Zealand was associated with different levels of achievement. The mean scores for those that lived in New Zealand for more than five years and those that were born in New Zealand were significantly higher than those that had lived in New Zealand between one and five years.

Table 58: Mean asTTle scores by First Language Spoken (Case Study 4)

First language spoken		2008		
		Pre-test	Post-test	Total Score Gain
National Norm	*M*	517	634	117
English Only				
	M	468.14	574.86	106.71
	SD	48.70	83.50	70.00
	n	28	28	28
Pasifika Language Only				
	M	444.74	533.04	88.30
	SD	55.37	55.47	57.16
	n	23	23	23
Pasifika and English				
	M	462.00	521.00	59.00
	SD	.	.	.
	n	1	1	1
Other				
	M	423.50	538.50	115.00
	SD	140.71	157.68	16.97
	n	2	2	2

Table 59: Stanines by Language Spoken at Home for Longitudinal Cohort (Case Study 4)

Language spoken at home		2007			2008	
		Pre-test	Post-test	Total Score Gain	Post-test	Total Score Gain
National Norm	*M*	517	634	117	727	93
English Only						
	M	454.42	516.50	62.08	549.83	33.33
	SD	63.32	82.34	71.45	79.78	53.32
	n	12	12	12	12	12
Pasifika Language Only						
	M	427.80	437.40	9.60	505.40	68.00
	SD	35.96	59.09	31.76	44.98	34.69
	n	5	5	5	5	5
Pasifika and English						
	M	437.00	457.50	20.50	532.00	74.50
	SD	35.36	126.57	91.22	0.00	126.57
	n	2	2	2	2	2

Table 60: Mean asTTle scores by Birth Country (Case Study 4)

Birth country		2008		
		Pre-test	Post-test	Total Score Gain
National Norm	*M*	517	634	117
Pacific Region				
	M	442.81	521.54	78.73
	SD	51.51	61.46	54.31
	n	26	26	26
New Zealand				
	M	471.15	589.04	117.89
	SD	55.99	74.82	66.91
	n	27	27	27
Other				
	M	412.00	490.00	78.00
	SD	N/A	N/A	N/A
	n	1	1	1

Table 61: Mean asTTle scores by Time in New Zealand (Case Study 4)

Time in New Zealand		2008		
		Pre-test	Post-test	Total Score Gain
1 - 5 years				
	M	429.08	501.85	72.77
	SD	47.22	63.09	46.87
	n	13	13	13
> 5 years				
	M	446.09	538.00	91.91
	SD	57.67	60.79	64.12
	n	11	11	11
Born in NZ				
	M	471.15	589.04	117.89
	SD	55.99	74.82	66.91
	n	27	27	27

Student views

Like students in the other schools, these students also had big dreams: to be pilots, professional sportspeople, or professionals such as lawyers, social workers, or teachers. As evident in their previous views about teachers and teaching, some students believed that their dreams would be fulfilled, while others did not. This shows that while some students were motivated and engaged with learning, other students were not.

When asked about what the school could do to make a change almost all students supported the school's plan. They wanted the school to have a facility which all Pasifika students could call their place, although there was some debate as to whether it should be Samoan-specific or not. This comes at a time when Māori students already have a facility which Pasifika students are not permitted to use. One student put it this way: "*Yeah because the Māoris have got their canteen and we're not allowed to go in... in the Māori block. They come to ours but we're not allowed to go into theirs. We got kicked out. They said that we were buying too much of their food and they come into our canteen and take all of ours."*

The holistic view is that teaching and learning entails the whole being. Pasifika students consider a place of their own as a vital part of their education and feel strongly about a place which they can utilise where they can socialise and interact with peers. As part of engagement for learning they needed more Pasifika teachers whom they could approach for academic help but noted that there were fewer numbers of Pasifika teachers especially those who teach Pasifika students in ESOL classes.

More island teachers

We only have 3 island teachers

...yeah, yeah cause it'll be better for them

Better understanding English

Because there are Palagis and Indians that are teaching the ESOL groups, but the ESOL groups are islanders and they don't understand and they can't really ... yeah

They recognised that the home support was about motivation and extended that to the church's role in their education. For example, when asked about the sort of home support they get, they responded that their parents 'push hard' to achieve and part of that push is attending church activities.

They're pushing you

Do it for church

Put God first and then education

3.3.5 Summary

Taken together these case studies suggest a number of themes or conclusions relating to the general hypotheses. The conclusions that follow are not made using the logic of systematic comparisons between schools. There are too few schools, and they differ both in known and unknown ways that make direct comparisons risky. Nevertheless, because the schools are each in Schooling Improvement clusters and because they vary in the overall levels as well as rates of gain in achievement, it is possible to draw themes, given a model that these clusters are designing more effective systems and some are more developed than others. These themes are drawn from the patterns of developing greater effectiveness given the evidence and given the hypotheses. A final caveat is our view that schools should develop solutions to effectiveness that are firmly rooted in their local contexts. Given variations in context, their solutions and therefore the findings around these hypotheses are likely to vary.

Connectedness

The relationship between a school and its families is important. The case studies suggest greater effectiveness deriving from practices that involve sharing knowledge and resources with a degree of reciprocity, with the specific outcome of increasing parent involvement which may then improve students' motivation and academic skills. Putting together the evidence across the various sources, three conclusions are suggested: (a) parents' understanding of information about their own individual child's learning and achievement, both strengths and weaknesses as well as progress across time, can increase parental impact on motivation and skills; but (b) parents need guidance and advice on both motivational and academic involvement; and (c) parents are keen to receive advice and have ideas about practices both at home and at school that could contribute. These may or may not be effective but they are important ideas that can be the basis of reciprocity - an example is the role and forms of homework.

Inquiry and collective efficacy

The hypotheses about developing inquiry practices that are evidence-based and outcomes-focused is well illustrated in the case studies. The schools are all engaged in clusters of Schooling Improvement which focus on inquiry and it would be expected that these practices would be in place. But the schools varied in how deeply ingrained, extensive and coherent their practices are. The patterns suggest that greater coherence will be associated with greater effectiveness. Coherence matters: (a) between levels in the schools, across members of the school professional community, and between different instructional parts including teachers; (b) for new members of the system so that detailed induction as a member sharing values and skills is important; and (c) so that all programmes – existing and new – are integrated into the inquiry practices and are 'tested' by the inquiry process. The coherence between teachers appears to be especially significant so that there is consistency in pedagogical approaches as well as in focus and goals.

Pedagogy and cultural responsiveness

There is some ambiguity detected in the data in how these terms are used, and there is a need to clarify more specifically what is meant by these terms. However, in general, the evidence across schools was that the schools to varying degrees taught using generically effective forms of instruction but adapted them to be applicable to and responsive to different Pasifika learners. At a general level, cultural responsiveness is a dimension of generically effective instruction. Having said that, it is possible to identify elements of what the model is that the schools are moving towards. Clearly, schools are effective to the degree that they use known attributes such as explicit instruction for both basic knowledge and strategies, high levels of elaborative talk and inquiry are promoted, there is a focus on the language needs including those for vocabulary and there are well-developed forms of feedback. Running across these is the need to be clear and explain goals and needs for learning. On the other hand specific dimensions of cultural responsiveness are clearly part of more effective teaching. The twin dimensions of positive relations and incorporating students' resources are identified. Importantly, these themes are echoed by the students. Pasifika pedagogies that are being developed in these schools, in the sense of being culturally responsive, draw on background knowledge including topics and event knowledge, language patterns and activities, and the students and teachers are aware of this. But in addition there is the dimension of a strong emotional relationship which, together with the instructional attributes, has elements of being both rigorous and challenging as well as being respectful and empathetic. The former includes the high expectations and the latter a Pasifika sense for the students of education being service-oriented and, from the teacher, positive affect expressed with devices such as Pasifika-oriented humour.

Pasifika learners

The student voices are very similar to those from the Te Kotahitanga project but the adaptations suggested above include a need for teachers to provide a strongly supportive base enabling the students to take risks and be critical and engaged. The evidence supports previous research showing Pasifika learners to be generally highly motivated to succeed and to be willing to learn across the schools. Students are more consistently positive at primary schools (but this is true generally, and there is a more general need to consider how to increase engagement and emotional connection at secondary levels). If we only look at language status from the point of view of achievement, and putting the conclusion negatively, there is no evidence that having two or more languages is an impediment to high success either at primary or at secondary. The patterns of development may look different for those students with a Pasifika language or both a Pasifika and English language background in the earlier years, compared with English only students. But from the middle and upper primary and into the secondary years the sense is that bilingualism may (under important conditions not tested here, such as level of bilingualism) lead to similar outcomes as having a strong English only status, and in the wider sense indicated in the Introduction confer other advantages. There is perhaps an obvious suggestion in the data that more familiarity with the New Zealand education system is advantageous and we take this to mean that for newly arrived students there is a need to have very explicit induction and support to develop the knowledge and skills required for schooling.

4. Leadership Patterns

The leadership survey was completed by 69 teachers. These came from five schools in Cluster A, five schools in Cluster B and three Case Study schools from outside these clusters. (There was a total of five Case Study Schools that returned the surveys: one within Cluster A, one within Cluster B and three outside these clusters). Demographics for teachers who completed the leadership survey across all schools are presented in Table 62.

Table 62: Demographics for Teachers who Completed the Leadership Survey

		Number	Percentage
Position in the School			
	Principal	5	7%
	AP/DP	17	25%
	Dean/Head of Department	12	17%
	Senior/Lead Teacher	8	12%
	Teacher	27	39%
Qualifications			
	Diploma	4	6%
	Higher Diploma	1	1%
	Bachelors or Advanced Diploma	9	13%
	Bachelors and Diploma	38	55%
	Masters	15	22%
	PhD	2	3%
Ethnicity			
	NZ European	49	71%
	Cook Island Māori	1	1%
	Samoan	6	9%
	Tongan	1	1%
	Other	10	14%
	Missing	2	3%
Gender			
	Male	16	23%
	Female	51	74%
	Missing	2	3%
Age			
	30 or under	10	14%
	31-40	13	19%
	41-50	12	17%
	51-60	27	39%
	over 60	7	10%
Year Level(s) Taught in 2008			
	Years 0 – 4	6	9%
	Years 5 – 8	8	12%
	Years 9 - 13	43	62%
	Combined[1]	3	4%
	Missing	9	13%
Subject Specialism			
	English	26	38%
	Mathematics	6	9%
	Science	2	3%
	History	2	3%
	English & Other	13	19%
	Other	5	7%
	Missing[2]	15	22%
Country Trained			
	New Zealand	55	80%
	New Zealand & Other	5	7%
	Other	9	13%
Years of Teaching Experience			
	1 - 2.5 years	6	9%
	3 - 5 years	6	9%

	Number	Percentage
5.5 - 10 years	11	16%
More than 10 years	46	67%
Years Teaching at Current School		
1 - 2.5 years	12	17%
3 - 5 years	16	23%
5.5 - 10 years	21	30%
More than 10 years	20	29%

[1] If the year levels taught were across two or more categories the Year Level was categorised as combined, e.g., Years 7 - 9.

[2] The large number of teachers missing a subject specialism is likely to be due to the fact that primary school teachers often do not have a specialism.

Teachers rated aspects of leadership on a scale of 1 (never) to 5 (always). Each of the six sections represented a different aspect of leadership, as described in Table 63.

Table 63: Summary of Sections in the Leadership Survey

Section	Aspect of Leadership
1	Strong Instructional Leadership of the Principal / School Leaders
2	Strong Emphasis on Academics
3	High Expectations for Student Achievement
4	Frequent Monitoring of Student Progress
5	Positive School Climate
6	Positive Home-School Relations

Mean scores for each section and across all sections for all teachers are presented in Table 64. Means are comprised of all teachers who completed every question in that section.

Table 64: Mean Leadership Ratings for Each Section and Across All Sections of the Leadership Survey

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	All Sections
M	3.83	3.82	4.25	3.99	4.27	4.27	4.09
SD	0.70	0.59	0.59	0.57	0.47	0.57	0.51
n	65	64	69	65	67	64	58

Mean ratings were moderate to high in each section, falling between 3 (sometimes) and 4 (most of the time), or 4 (most of the time) and 5 (always). The highest mean rating was in two sections: Section 5 – positive school climate, and Section 6 – positive home-school relations. The lowest mean rating was in Section 2 – strong emphasis on academics, while Section 1 – strong instructional leadership of the principal / school leaders was only slightly higher. However, the variation in responses (as indicated by the standard deviation) was greatest in Section 1, indicating that some teachers rated these measures low while others high. This could be explained by the fact that both teachers and principals answered the survey. School management may self-rate themselves differently to teachers.

Variations existed between clusters and individual schools, as seen in Table 65 and Table 66. Mean scores for each section varied from 3.25 (Section 1, Case Study 4) to 5.00 (Section 5, Case Study 3). Given that a score of 3 is 'sometimes' and a score of 5 is 'always', these ratings were quite high in most cases despite the variation. Most mean scores fell between 4 (most of the time) and 5 (always).

Cluster A had higher mean ratings overall (M = 4.24) and Cluster B had lower ratings (M = 4.02). Both Cluster A and B had their highest ratings in Section 6 (positive home-school relations). Cluster A's lowest mean scores were in Section 2 (strong emphasis on academics), and Cluster B's lowest mean scores were in

Section 1 (strong instructional leadership of the Principal/school leaders) and Section 2 (strong emphasis on academics).

Table 65: Mean Leadership Ratings for Each Section and Across All Sections of the Leadership Survey for Focus Clusters

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	All Sections
Cluster A Total (n = 15)							
M	4.24	4.05	4.30	4.12	4.29	4.32	4.24
SD	0.58	0.50	0.54	0.49	0.46	0.43	0.46
n	14	15	15	15	15	15	14
Cluster B Total (n = 44)							
M	3.68	3.68	4.21	3.96	4.21	4.30	4.02
SD	0.68	0.59	0.60	0.53	0.45	0.54	0.50
n	41	39	44	40	42	39	34

Mean ratings across all five Case Study Schools were similar to Cluster A (M = 4.20). Nearly all the Case Study Schools had their highest ratings in Section 5 (positive school climate). There was some variation between mean scores of the five Case Study Schools. One school (Case Study 4) had mean scores between 3 (sometimes) and 4 (most of the time), while the others had most or all mean scores between 4 (most of the time) and 5 (always). There was also much variation between the section with the highest and lowest mean score for each school. For example, Section 1 received the equal highest score for Case Study School 3, but the lowest score for Case Study School 4. This variation may be due to the fact that each school had only a small number of teacher participants (number of participants ranged between 3 and 9).

Table 66: Mean Leadership Ratings for Each Section and Across All Sections of the Leadership Survey for Case Study Schools

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	All Sections
Case Study 1 (*n* = 3)							
M	4.33	4.13	4.33	4.03	4.20	4.30	4.22
SD	0.60	0.38	0.35	0.40	0.35	0.60	0.43
n	3	3	3	3	3	3	3
Case Study 2 (*n* = 9)							
M	4.14	4.01	4.42	4.25	4.41	4.50	4.31
SD	0.53	0.51	0.52	0.40	0.38	0.58	0.42
n	9	8	9	8	8	9	8
Case Study 3 (*n* = 3)							
M	4.47	4.43	4.83	4.50	5.00	4.93	4.69
SD	0.59	0.49	0.12	0.44	0.00	0.12	0.23
n	3	3	3	3	3	3	3
Case Study 4 (*n* = 4)							
M	3.25	3.45	3.73	3.30	3.95	3.55	3.54
SD	0.40	0.37	0.56	0.87	0.24	0.60	0.40
n	4	4	4	4	4	4	4
Case Study 5 (*n* = 3)							
M	4.07	4.23	4.77	4.20	4.70	3.87	4.31
SD	0.81	0.51	0.12	0.44	0.30	1.03	0.52
n	3	3	3	3	3	3	3
Case Study Schools Total (*N* = 22)							
M	4.04	4.01	4.39	4.07	4.42	4.27	4.20
SD	0.65	0.52	0.54	0.62	0.44	0.72	0.52
n	22	21	22	21	21	22	21

5. Pedagogical Content Knowledge Patterns

5.1 Primary Schools

In total 96 teachers across 7 primary schools completed the Pedagogical Content Knowledge Survey (PCK). Demographics for teachers who completed the PCK survey across all schools are presented in Table 67. A total of 63 (66%) respondents were teachers, with a further 16 (17%) respondents who were Senior or Lead Teachers. More than half of the respondents (82%) had a bachelors degree or higher. The ages included approximately a quarter in each of the three younger age brackets (30 or under, 31 - 40, 41 - 50). Most teachers (75%) were trained in New Zealand, with 45% of all respondents having taught for 10 or more years.

Table 67: Demographics for Primary Teachers who Completed the PCK Survey

		Number	Percentage
Position in the School			
	Principal	1	1%
	AP/DP	9	9%
	Senior/Lead Teacher	16	17%
	Teacher	63	66%
	Other	2	2%
	Missing	5	5%
Qualifications			
	Certificate	5	5%
	Diploma	9	9%
	Bachelors or Advanced Diploma	42	44%
	Bachelors and Diploma	29	30%
	Masters	8	8%
	Other	2	2%
	Missing	1	1%
Age			
	30 or under	20	21%
	31-40	23	24%
	41-50	28	29%
	51-60	15	16%
	Over 60	8	8%
	Missing	2	2%
Year Level(s) Taught in 2008			
	Year 0 - 4	25	26%
	Year 5 - 8	44	46%
	Year 9 - 13	3	3%
	Combined[1]	17	18%
	Missing	7	7%
Subject Specialism			
	English	9	9%
	Mathematics	4	4%
	Science	3	3%
	Mathematics & Other	7	7%
	English & other	10	10%
	Other	15	16%
	Missing[2]	48	50%
Country Trained			
	New Zealand	72	75%
	Pacific Islands	1	1%
	New Zealand & Other	12	13%
	Other	11	11%

	Number	Percentage
Years of Teaching Experience		
1 - 2.5 years	17	18%
3 - 5 years	15	16%
5.5 - 10 years	20	21%
More than 10 years	43	45%
Missing	1	1%
Years Teaching at Current School		
1 - 2.5 years	43	45%
3 - 5 years	22	23%
5.5 - 10 years	13	14%
More than 10 years	17	18%
Missing	1	1%

[1] If the year levels taught were across two or more categories the Year Level was categorised as combined, e.g., Years 7 - 9.

[2] The large number of teachers missing a subject specialism is likely to be due to the fact that primary school teachers often do not have a specialism.

5.1.1 Mean scores

Across all questions in the survey (Appendix H), the mean score was 1.35 (*SD* = 0.42; *n* = 67), or between 1 (correct) and 2 (correct with rationale). Mean scores for each individual question and combined across similar questions are presented in Table 68 to Table 71 below. See Section 2.3.2 for a description of the questions. Note that means are made up of different numbers of teachers because some teachers did not answer all questions. Means combined across sections are created only for those teachers who answered every question in that particular section.

Table 68: Section 1 – Individual Questions

	1a	1b	1c	2a	2b	2c
M	1.25	1.29	1.32	1.44	1.49	1.40
SD	0.54	0.54	0.56	0.70	0.75	0.73
n	96	95	88	95	87	78

Table 69: Section 2 – Individual Questions

	1	2	3	4
M	1.22	1.03	1.10	1.77
SD	0.98	0.94	1.14	0.74
n	93	91	90	92

The highest mean score for any question was Section 2, Question 4, in which teachers were asked what to do next following analysis of STAR results. The lowest mean score was Section 2, Question 2, which involved pointing out additional information in STAR results.

Table 70: Section 1 – Means Across Questions

	Section 1 (Teaching scenario)	Questions 1a - c (Identify Effective)	Questions 2a - c (Suggest Improvements)
M	1.37	1.30	1.45
SD	0.45	0.48	0.67
n	70	88	76

Table 71: Section 2 – Means Across Questions

	Section 2 (STAR data)	Questions 1 - 2 (Analyse data)	Questions 3 - 4 (Apply data)
M	1.28	1.13	1.44
SD	0.65	0.80	0.79
n	90	91	90

In general, scores were higher in Section 1, which involved identifying teaching moves and explaining what could be done differently, than Section 2, which involved analysing and applying STAR data. Scores were higher in explaining what could be done differently (Section 1, Question 2a - c) than in identifying effective teaching moves (Section 1, Question 1a - c). Scores were also higher in applying STAR data to teaching (finding other information and explaining what to do next; Section 2, Question 3 - 4) than analysing STAR data (Section 2, Question 1 - 2).

5.1.2 Mean scores by school

Table 72: Means Across Sections by School

	Section 1	Section 2	All Sections
Case Study 1 (*n* = 6)			
M	0.88	1.31	0.97
SD	0.37	0.72	0.50
n	4	4	3
School A2 (*n* = 12)			
M	1.47	1.32	1.42
SD	0.32	0.65	0.40
n	11	11	10
School A3 (*n* = 9)			
M	1.21	1.17	1.20
SD	0.34	0.64	0.32
n	8	9	8
School A4 (*n* = 8)			
M	1.13	0.75	0.98
SD	0.25	0.35	0.13
n	4	8	4
School A5 (*n* = 41)			
M	1.48	1.27	1.39
SD	0.55	0.64	0.45
n	28	39	28
Case Study 3 (*n* = 13)			
M	1.47	1.46	1.52
SD	0.40	0.47	0.38
n	5	7	5
Case Study 5 (*n* = 7)			
M	1.33	1.58	1.47
SD	0.22	0.81	0.38
n	10	12	9
Total (*N* = 96)			
M	1.37	1.28	1.35
SD	0.45	0.65	0.42
n	70	90	67

Results indicated much variation between schools. Mean scores across all sections were as high as 1.52 (Case Study 3) and as low as 0.97 (Case Study 1). There was also variation between areas of strength. For example, Case Study 1 and School A4 both have very similar mean scores overall, yet Case Study 1 had higher scores in Section 2 while School A4 had higher scores in Question 1.

Two of the Case Study Schools, Case Study 3 and Case Study 5, had higher means for the survey than the overall average of all primary schools. Scores in Section 1 were slightly lower for Case Study 5, but higher for Section 2, whereas scores for Case Study 3 were almost identical across the two sections.

5.1.3 Score frequencies

Figure 24 and Figure 25 displayed the number of teachers at each possible score (0 - 3) for each question for Sections 1 and 2. The number of teachers who did not answer each question varied from none (all teachers answered Question 1a) through to 18 (18 teachers did not answer Question 2c). Note that as Section 1's Questions 1a - c and Questions 2a - c required teachers to list 3 responses, fewer teachers answered 1c and 2c (not all teachers provided 3 responses) while most answered 1a and 2a.

Questions 2a - c (explaining what could be done differently) generally had more scores of 2 and 3 than Questions 1a - c. However, there were also more scores of 0 in Questions 2a – c. Scores were more consistent in Questions 1a – c (identifying effective teaching moves), where in each question most teachers had a score of 1 (correct but without an explanation).

***Figure 24*: Number of teachers with each score for each question in Section 1**

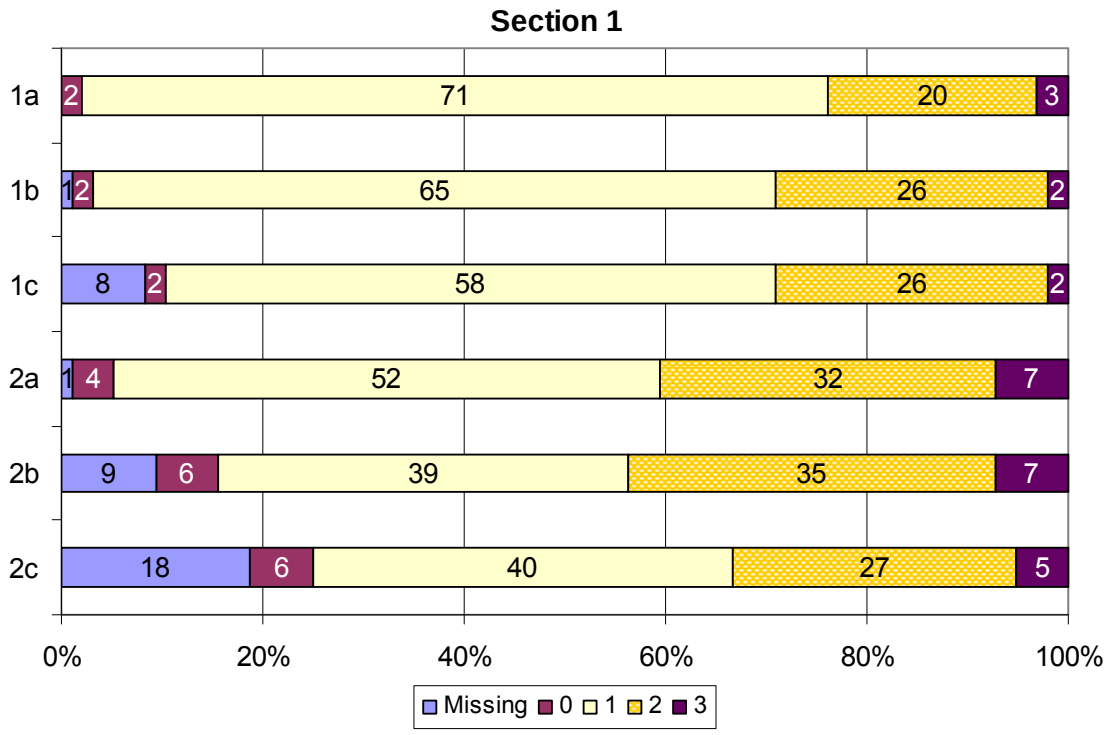
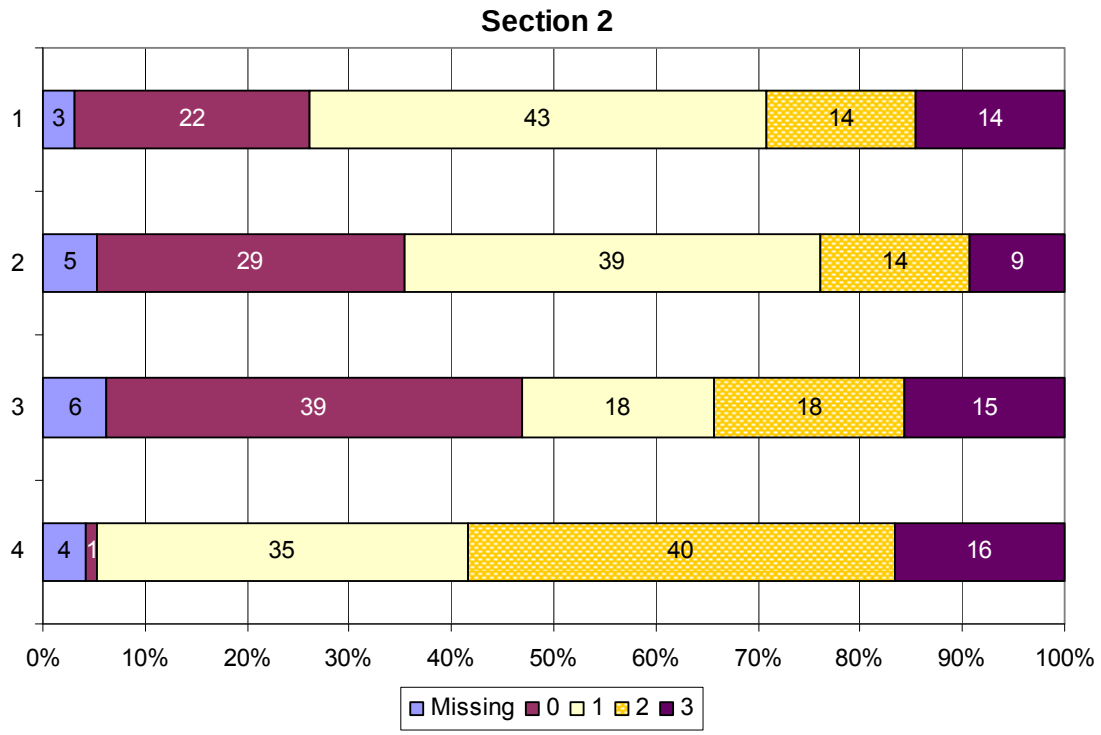


Figure 25: **Number of teachers with each score for each question in Section 2**



Section 2 had great variation between different questions. Questions 1 - 2 (to explain what paragraph comprehension results meant and point out other information from the results) were generally similar, with a roughly even spread of scores. Question 3 (suggest further information that a teacher could use in making decisions about comprehension) had the greatest number of teachers scoring 0, while Question 4 had only 1 teacher scoring 0 and most scored 1 or 2.

5.1.4 Score correlations for Focus Cluster A

Correlations with class achievement measures

There was no significant correlation between total PCK scores and any of the achievement measures (level or rate of gain, see Table 73). It may be that, like the classroom observations, the more significant relationship might be with school level of gains, reflecting the dimension of coherence across teachers. It may also be, as noted above, that the 'inert' measures of PCK, that is, pencil and paper checks, are not useful.

A significant correlation was found between class stanine gains in 2007 (Pre-test to Post-test) and section 2, question 4 of the PCK survey. This question asks what the teacher should do with STAR results, so high marks on this question involve understanding how to apply the results of testing to further teaching. However, this correlation did not occur in 2008, suggesting that it may have been due to chance considering the large number of correlations conducted.

Table 73: Correlations (r) Between PCK Scores and Teachers' Mean Class STAR Scores

	Mean Stanine Pre-test 2007	Mean Stanine Post-test 2007	Stanine Gain 2007	Mean Stanine Pre-test 2008	Mean Stanine Post-test 2008	Stanine Gain 2008
Question 1a	0.01	0.00	-0.06	0.21	0.07	-0.05
Question 1b	0.15	0.14	0.02	0.14	0.04	-0.04
Question 1c	0.09	0.22	0.28	0.18	0.10	0.00
Question 2a	0.32	0.15	-0.14	0.05	0.01	0.04
Question 2b	0.06	0.03	0.00	0.05	-0.18	-0.23
Question 2c	0.24	0.15	-0.02	0.05	-0.10	-0.19
Question 1	0.13	-0.07	-0.29	0.12	-0.13	-0.24
Question 2	0.19	0.03	0.08	0.08	-0.20	-0.25
Question 3	0.16	0.02	-0.33	0.20	0.01	-0.11
Question 4	0.21	0.38	0.54*	0.32	0.14	0.01
Mean Score - All questions	0.19	0.14	0.09	0.23	-0.13	-0.34
Mean Score - Section 1	0.23	0.30	0.27	0.22	-0.02	-0.22
Mean Score - Section 1 Question 1a - c	0.09	0.15	0.13	0.21	0.10	-0.05
Mean Score - Section 1 Question 2a - c	0.16	0.08	-0.01	0.05	-0.07	-0.13
Mean Score - Section 2	0.25	0.11	-0.06	0.28	-0.09	-0.25
Mean Score - Section 2, Question 3 - 4	0.25	0.24	0.05	0.31	0.08	-0.08
Mean Score - Section 2, Question 3 - 4	0.25	0.24	0.05	0.31	0.08	-0.08

****p*<.001. ***p*<.01. **p*<.05

Correlations with teacher demographics

There was no significant correlation between total PCK scores and any of the demographic indices. There was no consistent pattern of relationship with subsections either, and so we assume this measure of PCK does not accurately distinguish between different forms of effective knowledge. It may be that we will need to design measures which tap 'enactive' knowledge rather than this 'inert' form of knowledge to find relationships.

Significant positive correlations were found between years of experience teaching and Section 2, Question 3, and between years of experience teaching and the average of Section 2, Questions 3 - 4 (presumably due to the correlation with Question 3). Question 3 asks the teacher to identify other information, in addition to STAR results, which could be used to make decisions about teaching comprehension.

Significant positive correlations were also found between position in the school and several PCK scores including: Section 1, Question 1b; Section 2, Question 4 ; the mean score across Section 2, Questions 3 - 4;

and the mean score across all questions in Section 2. Question 1b in Section 1 asks teachers to identify effective teaching moves, and Question 4 in Section 2 asks teachers to point out information from STAR results. The other correlations with Section 2 mean scores are probably due to the strong correlation with Question 4.

Significant positive correlations were also found between teacher qualifications and PCK scores including Section 1, Question 2b and Section 1, Question 2c. Qualifications also correlated with the mean of Section 1, Question 2a - c presumably due to the previous correlations. Questions 2b and c ask teachers to suggest things which they would do differently in teaching a particular lesson.

Additionally, one negative correlation was found to be significant: teacher qualifications and Section 2, Question 1. This question involves analysing paragraph comprehension results in STAR.

Table 74: Correlations (r) between PCK Scores and Teachers' Demographics

	Position in School	Qualification	Teaching Experience - Overall	Teaching Experience - At current school	Age
Question 1a	0.10	-0.13	-0.20	-0.10	-0.21
Question 1b	0.25*	0.00	-0.13	-0.06	-0.01
Question 1c	0.08	0.18	-0.15	-0.07	-0.15
Question 2a	-0.02	0.18	0.10	0.04	-0.11
Question 2b	0.11	0.31*	0.07	0.05	-0.07
Question 2c	0.03	0.32*	-0.01	0.08	-0.10
Question 1	0.03	-0.27*	-0.01	0.00	-0.04
Question 2	0.23	0.02	0.02	-0.07	-0.12
Question 3	0.15	-0.23	0.28*	0.07	0.05
Question 4	0.36**	-0.06	0.07	0.15	-0.04
Mean Score - All questions	0.21	0.07	0.01	-0.03	-0.23
Mean Score - Section 1	0.10	0.27	-0.11	-0.04	-0.23
Mean Score - Section 1 Question 1a - c	0.14	0.02	-0.22	-0.12	-0.18
Mean Score - Section 1 Question 2a - c	0.04	0.31*	0.02	0.05	-0.14
Mean Score - Section 2	0.27*	-0.23	0.15	0.05	-0.06
Mean Score - Section 2, Question 3 - 4	0.15	-0.16	0.00	-0.04	-0.10
Mean Score - Section 2, Question 3 - 4	0.29*	-0.20	0.26*	0.14	0.03

***p<.001. **p<.01. *p<.05

5.2 Secondary Schools

In total 77 teachers across six schools completed the Pedagogical Content Knowledge Survey (PCK). Demographics for teachers who completed the PCK surveys across all schools are presented in Table 75. A total of 44 (57%) respondents were teachers, with a further 20 (26%) respondents who were Senior or Lead Teachers. More than half of the respondents (87%) had a bachelors degree or higher. The age range was approximately even in the three younger age brackets (30 or under, 31 - 40, 41 - 50), however, respondents in the 51 - 60 age bracket accounted for 42% of all respondents. Most teachers (71%) were trained in New Zealand, with 57% of all respondents having taught for ten or more years.

Table 75: Demographics for Secondary Teachers who Completed the PCK Survey

		Number	Percentage
Position in the School			
	Principal	1	1%
	AP/DP	3	4%
	Dean/Head of Department	3	4%
	Senior/Lead Teacher	20	26%
	Teacher	44	57%
	Other	3	4%
	Missing	3	4%
Qualifications			
	Diploma	4	5%
	Bachelors or Advanced Diploma	4	5%
	Bachelors and Diploma	47	61%
	Masters	19	25%
	PhD	1	1%
	Other	2	3%
Age			
	30 or under	11	14%
	31-40	13	17%
	41-50	14	18%
	51-60	32	42%
	Over 60	7	9%
Year Level(s) Taught in 2008			
	Year 9 - 13	74	96%
	Combined	1	1%
	Missing	2	3%
Subject Specialism			
	English	31	40%
	Mathematics	1	1%
	Science	7	9%
	English & Other	22	29%
	Other	14	18%
	Missing	2	3%
Country Trained			
	New Zealand	55	71%
	New Zealand & Other	9	12%
	Other	11	14%
	Missing	2	3%
Years of Teaching Experience			
	1 - 2.5 years	11	14%
	3 - 5 years	8	10%
	5.5 - 10 years	14	18%
	More than 10 years	44	57%
Years Teaching at Current School			
	1 - 2.5 years	20	26%
	3 - 5 years	23	30%
	5.5 - 10 years	13	17%
	More than 10 years	21	27%

5.2.1 Mean scores

Across all questions, the mean score was 1.74 (*SD* = 0.41; *n* = 59), or between 1 (correct) and 2 (correct with rationale). Mean scores for each individual question and combined across similar questions are presented in Table 76 and Table 81. See Section 2.32. for a description of the questions. Note that means are made up of different numbers of teachers because some teachers did not answer every question. Means combined across sections are created only for those teachers who answered every question in that particular section.

Table 76: Section 1 – Individual Questions

	1	2	3	4	5
M	1.65	1.62	1.83	1.80	1.66
SD	0.64	0.63	0.55	0.55	0.62
n	77	76	77	74	76

Table 77: Section 2 – Individual Questions

	1a	1b	2a	2b
M	1.71	1.72	1.67	1.87
SD	0.73	0.79	0.79	0.78
n	75	74	72	62

Table 78: Section 3 – Individual Questions

	1	2	3	4
M	1.74	1.68	1.70	1.68
SD	0.66	0.68	0.62	0.62
n	74	74	73	72

The highest mean score for any question was Section 2, Question 2b, in which teachers were asked to suggest ways in which to help students improve gaps in their asTTle results for the subtest 'inference'. However, as seen in the Frequencies section below, many teachers did not answer this question. Those teachers who chose not to answer the question may have received a lower score if they had answered the question. The lowest mean score was Section 1, Question 2, which involved identifying effective teaching actions.

Table 79: Section 1 – Means Across Questions

	Section 1 - All (Teaching scenario)	Questions 1 - 2 (Identify Effective)	Questions 3 - 4 (Identify less effective)	Question 5 (Suggest Extra)
M	1.72	1.64	1.82	1.66
SD	0.40	0.56	0.44	0.62
n	73	76	74	76

Table 80: Section 2 – Means Across Questions

	Section 2 - All (Improving asTTle Writing)	Questions 1a - b (Improving 'finding information')	Questions 2a - b (Improving 'inference')
M	1.75	1.71	1.77
SD	0.68	0.71	0.72
n	62	74	62

Table 81: Section 3 – Means Across Questions

	Section 3 - All (Supporting in Writing Task)
M	1.71
SD	0.54
n	72

In general, scores were very similar in all three sections. Scores were higher in identifying less effective teaching moves (Section 1, Question 3 - 4) than in identifying effective moves (Section 1, Question1 - 2). Scores in suggesting another effective move (Section 1, Question 5) were very similar to those for identifying effective moves. Scores were only slightly higher in improving 'inference' (Section 2, Questions 2a - b) than in improving 'finding information' (Section 2, Question 1a - b). Note that as the four questions in Section 3 had identical content, its sub-sections cannot be compared.

5.2.2 Mean scores by school

Mean scores across all sections were as high as 2.00 (Case Study 4) or as low as 1.33 (School B8). Despite the similarities in mean scores across all schools, there was variation between sections within some schools. For example, School B4 had higher marks in Section 1 than Section 2, while School B1 had much higher marks in Section 2 than Section 1. School B8, on the other hand, had identical mean scores across all three sections.

In general, the two Case Study Schools had higher marks than secondary schools overall. Case Study 2 had some variation between sections, with higher marks in Section 2 and lower marks in Section 3. Case Study 4, however, had identical mean scores for Sections 2 and 3, and only slightly lower scores for Section 1.

Table 82: Means Across Sections by School

		Section 1	Section 2	Section 3	All Sections
School B1 (*n* = 9)					
	M	1.58	2.06	1.56	1.72
	SD	0.35	0.48	0.37	0.34
	n	9	9	9	9
School B4 (*n* = 25)					
	M	1.70	1.33	1.68	1.60
	SD	0.43	0.66	0.55	0.42
	n	22	18	24	16
School B8 (*n* = 3)					
	M	1.33	1.33	1.33	1.33
	SD	0.42	1.04	0.58	0.65
	n	3	3	3	3
School B9 (*n* = 11)					
	M	1.75	1.84	1.80	1.83
	SD	0.34	0.76	0.44	0.30
	n	11	8	11	8
Case Study 2 (*n* = 23)					
	M	1.80	1.95	1.76	1.85
	SD	0.42	0.48	0.61	0.37
	n	23	19	21	19

Case Study 4 (*n* = 6)					
	M	1.92	2.00	2.00	2.00
	SD	0.23	0.88	0.61	0.54
	n	5	5	4	4
Total (*N* = 77)					
	M	1.72	1.75	1.71	1.74
	SD	0.40	0.68	0.54	0.41
	n	73	62	72	59

5.2.3 Score frequencies

Figure 26 to Figure 28 display the number of teachers scores for each question for Sections 1, 2 and 3. The number of teachers who did not answer each question varied from none (all teachers answered Question 1 and 3 in Section 1) through to 15 (15 teachers did not answer Question 2b in Section 2).

Scores were relatively consistent in Section 1, with most teachers scoring 2 in each question and many scoring 1. No teachers received a score of 0 for this section.

Figure 26: **Number of teachers with each score for each question in Section 1.**

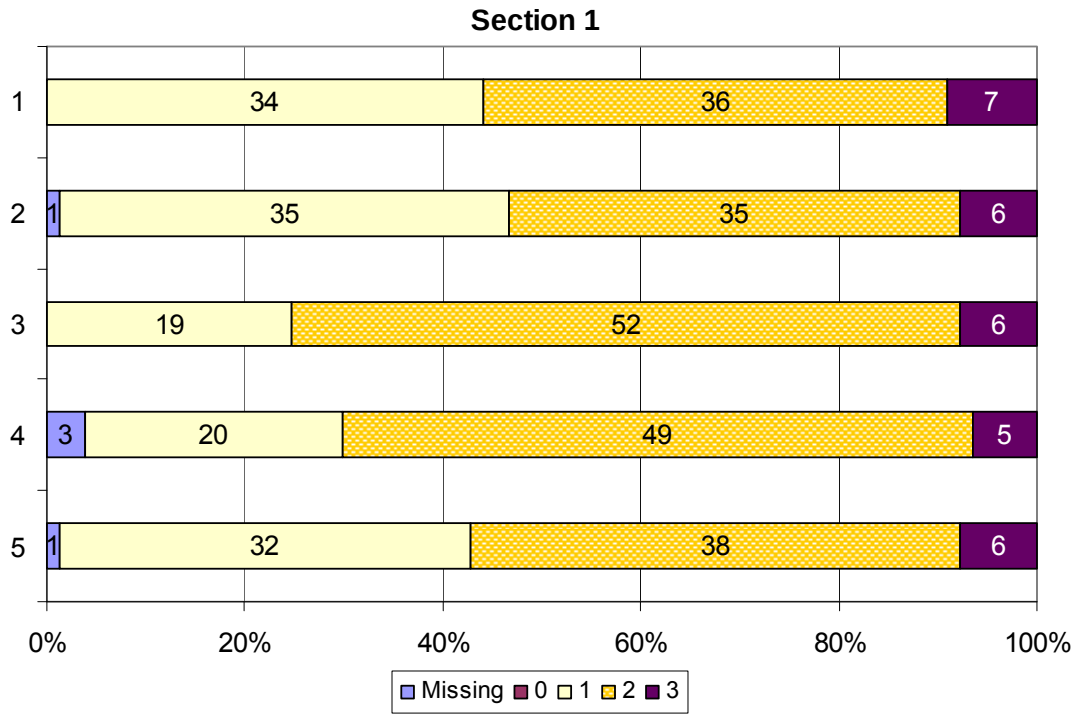


Figure 27: **Number of teachers with each score for each question in Section 2**

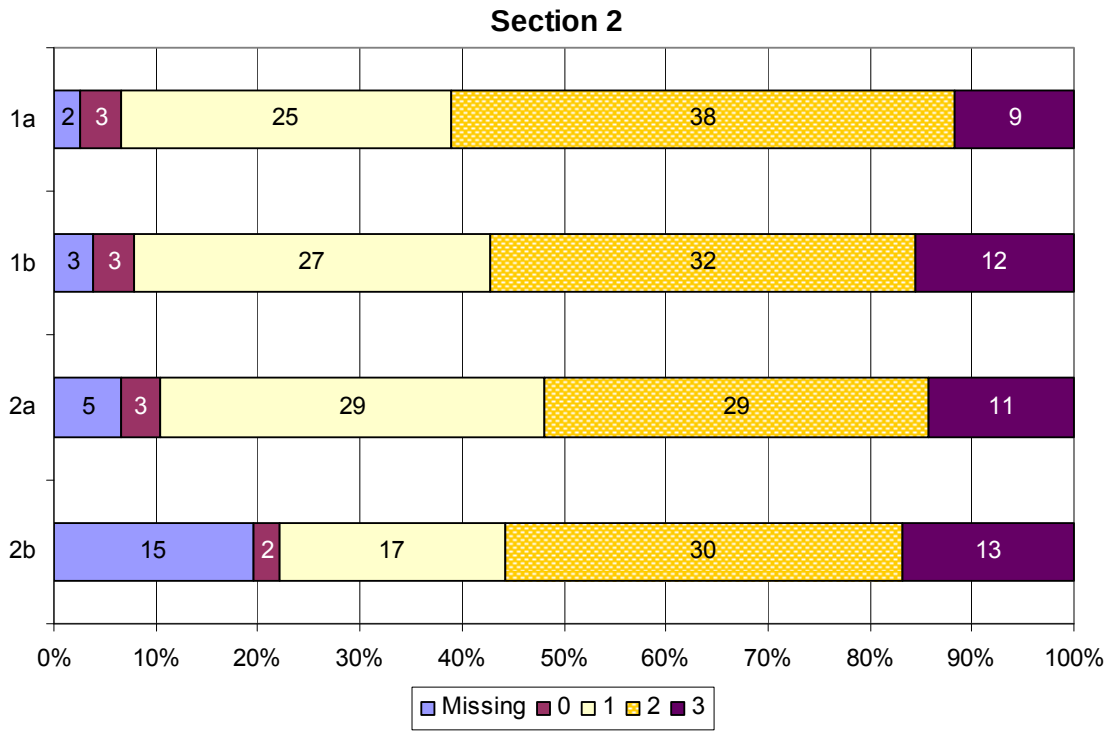
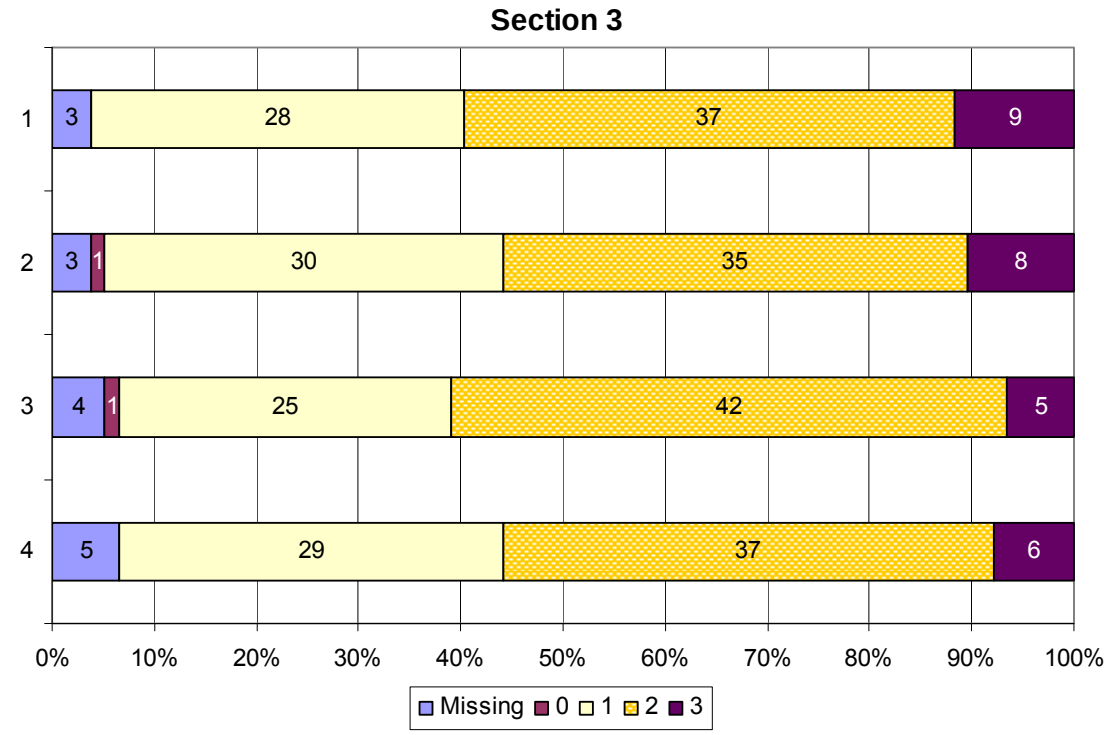


Figure 28: **Number of teachers with each score for each question in Section 3**



There was some variation in Section 2, the most marked of which was the large number of teachers who did not answer Question 2b. Scores were more consistent in Section 3, which had similar results to Section 1. Note that these were not analysed for correlation with student achievement due to a lack of class level data.

6. Summary of Classroom Instruction

The question addressed by the classroom observations of lessons was, "What are the practices that work (and do not work)?" In this area the focus was on aspects of instruction. An observational tool was designed to sample aspects of instruction, drawing on the extensive research literature on effective classroom instruction including previous research interventions both internationally and locally. Results for these observations were presented for each case study school and were combined with other sources of data including students' views and school leaders' views. The case data presentations provide insights at the level of the school. Here we summarise the data collected across the schools.

Because of the design ultimately adopted, we have data from two schools in addition to the Case Study Schools. This summary puts these data together with the Case Study Schools to draw limited conclusions with the extra data. The emphasis is on specific aspects of classroom instruction. These are tentative conclusions given the numbers of teachers and schools represented and extrapolating from them must be treated with great care. However, we indicate the extent to which they are consistent with other research evidence and theory-based predictions.

6.1 Results

A total of 34 individual lessons were observed from 12 teachers in the 6 Focus and Case Study Schools. The schools were chosen on two criteria. The Schooling Improvement schools (both those in the Focus Clusters and those not) were identified as highly effective for the cluster and willing to participate. The non Schooling Improvement schools were identified through professional judgement (using Ministry of Education and network sources) as highly effective with Pasifika students. The Principals were asked to recommend teachers who were willing to participate on the criteria of one highly effective for the school and one (relatively) less effective. Each school interpreted this request in their own way. One high school chose a teacher of a high stream class and a teacher of a low stream class. A primary school decided to choose two equally effective teachers. So the teachers need to be seen as functioning within well performing schools and identified in the context of these schools.

6.1.1 General patterns

The ratings (1-3) have been converted to percentage scores due to differences within and across lessons of completed scores on some instructional dimensions. In seven cases, time ran out to complete a full cycle in either the first or the second cycle of time sampling. Thus, a percentage score of 100% means an average rating of three, 66.7% means an average rating of 2 and 33.3% means an average rating of 1. In the following tables the Primary schools are schools A, C and E. The secondary schools are B, D and F.

Table 83 presents the overall summary for teachers and schools across the three components. The data show several patterns. The general impression from the table is that scores are high in the three components, above an average rating of 2. The teachers' classrooms and instruction in these schools tend to be rated highly.

A second pattern is that teachers tend to rate similarly across components. The correlations between each of the components ranged between $r = 0.66$ to $r = 0.95$ ($n = 12$ teachers). This suggests that teachers who were rated relatively highly in terms of systematic observations of their instruction were also relatively high in ratings of the way their classrooms were organised and in a global rating of their cultural responsiveness; and

the converse is true. However, there were large variations between teachers on each component. The total scores varied from 58.3% to 98.6% (*SD* = 12.8), meaning there were teachers who scored an average of less than 2 (Teacher A1) and teachers who scored close to an average rating of 3 (e.g., Teacher C2).

Another feature of the table is that the schools varied considerably in the total scores, from one in which the two teachers rated around 2 (School D; *M* = 66.2%) and one in which the teachers were rated around 3 (School C; *M* = 94.8%)

Table 83: Mean Percentages for Components across Teachers and Schools

School	Teacher	Features (Environment) %	Dimensions (Instruction) %	Attributes (Responsiveness) %	Total %	Total School %
A	1	58.3	56.4	66.7	58.3	
	2	94.4	75.4	100	84.6	71.4
B	1	100	83.3	83.3	87.3	
	2	61.1	60.0	61.1	60.4	73.9
C	1	94.4	87.8	100	90.9	
	2	100	97.8	100	98.6	94.8
D	1	72.2	74.2	55.6	70.8	
	2	84.9	52.2	66.7	61.6	66.2
E	1	93.9	81.3	77.8	84.1	
	2	88.9	76.7	83.3	82.3	83.2
F	1	83.3	79.6	83.3	81.1	
	2	66.7	78.7	83.3	76.4	78.8
Total	*M*	83.2	75.3	80.1	78.0	78.1
	SD	14.9	13.2	15.2	12.8	

6.1.2 Components

In terms of each component, the highest score was for the Features (including ambient, resources and management) and the lowest was for the Instructional dimensions, where the associated lowest standard deviation suggests all the teachers tended to be lower.

Table 84 presents the breakdown for the instructional dimensions based on time sampling. The scores for instructional dimensions were relatively similar across the 12 teachers (with means ranging from 67.5% to 84.4%). Interestingly, the dimension of Teacher Feedback had the lowest score with around an average rating of 2 (67.5%) and the largest standard deviation (*SD* = 22.7). Teachers varied more markedly in the focus on providing high quality feedback than in other dimensions. Three teachers had a mean rating of 1 (or 33.3%) on this dimension. The highest scores were for a focus on core knowledge which was above an average rating of 2.5 (*M* = 84.4%) and it had the lowest standard deviation (*SD* = 15.6).

Table 84: Mean Percentages across Teachers for Instructional Dimensions

School	Teacher	Instructional Dimensions (%)				
		Talk	Core Knowledge	Strategy	Vocab	Feedback
A	1	55.6	61.1	55.6	60.0	33.3
	2	80.0	73.3	66.7	75.0	83.3
B	1	61.1	94.4	93.3	86.7	66.7
	2	38.9	83.3	50.0	38.9	88.9
C	1	83.3	100	83.3	83.3	88.9
	2	94.4	100	100	100	94.4
D	1	91.7	75.0	66.7	58.3	80.0
	2	38.9	55.6	66.7	38.9	61.1
E	1	73.3	100	100	100	33.3
	2	77.8	100	88.9	83.3	33.3
F	1	83.3	83.3	91.7	66.7	66.7
	2	73.3	86.7	66.7	86.7	80.0
Total	*M*	70.9	84.4	77.5	73.4	67.5
	SD	18.7	15.6	17.4	20.9	22.7

Primary schools tended to score somewhat higher in their total scores (M = 83.1%) than secondary schools (M = 73.0%). The instructional dimensions contributed to this and on four out of the five dimensions the primary schools scored more highly (the exception was Feedback).

Cultural responsiveness was judged from two elements. One was incorporation of students' resources (such as their background knowledge) and the other was the positivity of their relationships, including the degree to which they were respectful and conveyed high expectations. The former tended to be judged as lower more often than the latter. In each instance of a difference in rating, the specific use of students' backgrounds was lower (M = 2.2) than relationships (M = 2.5).

6.1.3 Relationships with effectiveness

Do these patterns relate to effectiveness, measured in terms of achievement? It must be remembered that there are multiple sources of influence on student achievement. Hattie (2009) calculates up to 30% of the variance in achievement is attributable to teachers. In his analysis, 70% is attributable to five other sources including student characteristics, homes, peers, schools and Principals. This means that we would not expect a simple relationship between a light sampling of instruction and student outcomes.

1. Teacher designation
   The simplest analysis is between the observational data and the designation of teacher being high or less high in terms of Principal nominated effectiveness. Note that there are variations in how this was interpreted, and that the teachers were agreeable to being nominated. There was a slight difference between the two groups of teachers ('Higher' teacher M = 79.7; 'Lower' teacher M = 76.3).

2. Achievement outcomes in classes
   The classroom observation data can be examined in relationship to the student achievement of the classrooms of those teachers. These data are shown in Table 85. Note that for Schools A, B, C and D the achievement data are comprised only of Pasifika students. For Schools E and F, the achievement data are comprised of all students. The latter schools were non-Case Study Schools and their data were not sufficiently differentiated.

   We have taken the position that judgements of achievement should include consideration of both rate and level. This is because, at higher levels, less gain may be possible due to a number of constraints.

These include ceiling effects and the greater difficulties in terms of immediate gains of teaching to extend readers and writers, rather than bringing substantially below average students closer to an average (which itself also is confounded with regression to the mean effects). Also, a high level may indicate sustaining achievement patterns over a longer term and lower rates of gain may be indicative of this sense of maintaining steady progress.

Putting these two indices together, there is little consistency in the patterns in Table 85 to suggest that differences between individual teachers on the measure of classroom instruction are systematically associated with achievement differences in classrooms. While there was little pattern around individual variations, there were two different relationships when teachers were grouped according to overall patterns of achievement gains or levels. The mean score for teachers whose classes had close to or greater than expected gains in 2008 (n = 8) was 74.1%. On the other hand, those classrooms in which consistently lower than expected gains occurred (n = 4) had a mean score of 85.8%. Both of the latter were a mixture of secondary and primary classrooms. In contrast, when teachers were categorised according to the level of achievement for the pair of teachers in a school, those who had higher levels had a mean score of 82.8% and those who had lower levels had a mean score of 73.2%.

3. Achievement outcomes in schools
   Using the same indices, the achievement data for schools can also be examined for relationships with the teachers' instructional measures. There is a weak (but perhaps better termed 'emerging') pattern when these relationships are examined. Schools with both high levels and consistent rates of gains had teachers who tended to score higher on the measures of their classroom instruction. This is illustrated particularly by the primary schools 'C' and 'E'; but is suggested in the data for the secondary school 'B'. The corollary was that lower instructional scores were associated with lower levels although rates of gains might be high in one year (e.g., secondary school 'D'). The more detailed case studies are consistent with this characterisation of achievement patterns in these schools and relationships with instruction.

Table 85: Mean Instructional Scores and Achievement Measures for Classrooms and Schools

School[1]	Teachers	School	Class Mean 08			School Means 07			School Means 08		
	Total %	Total %	Beg 08	End 08	Gain	Beg 07	End 07	Gain	Beg 08	End 08	Gain[2]
A[3]	1 58.3		3.37	3.47	0.10						
	2 84.6	71.44	4.18	4.32	0.14	3.34	3.92	0.58	3.44	4.08	0.643
B[4]	1 87.3		568.80	645.20	76.40						
	2 60.4	73.86	510.81	610.63	99.82	525.06	626.85	101.79	533.23	616.82	83.59
C[3]	1 90.9		3.82	5.00	1.18						
	2 98.6	94.79	4.94	4.44	-0.50	4.30	4.54	0.24	4.06	4.41	0.353
D[4]	1 70.8		510.00	658.67	148.67						
	2 61.6	66.21	458.68	554.55	95.87	453.12	517.39	64.27	457.79	554.89	97.10
E[3]	1 84.1		4.53	4.84	0.31						
	2 82.3	83.20	5.33	5.92	0.59				5.04	5.63	0.593
F[4]	1 81.1		625.20	604.15	-21.05						
	2 76.4	78.77	503.67	524.47	20.80				571.86	555.45	-16.41

[1] The achievement data for Schools A, B, C and D were comprised only of Pasifika students
The achievement data for Schools E and F (non-Case Study Schools) used all students

[2] Expected Gain: STAR = 0; asTTle = 117

[3] STAR Stanine scores

[4] asTTle scores

6.2 Conclusions

6.2.1 Overall lesson quality: coherence between components

This overall association between the teachers' instruction and gains is not surprising given the literature used as a basis for the tool. Previous interventions associated with gains for Pasifika students in primary schools (Lai, McNaughton, Amituanai-Toloa et al., 2009) and Māori students in secondary schools (Bishop et al., 2007) have targeted the overall quality of teaching in one form or another.

The patterns suggest a particular sense of consistency in teaching is important. A high scoring teacher in one instructional area was generally effective in each of the areas of concern, although, as noted earlier there was substantial between-teacher variation on total scores and on sub scale scores.

An important (tentative) conclusion is that while there is evidence presented in the case studies of teachers with high scores in one or other of the three areas, the evidence suggests that being high in each area is likely to be important. That is, teachers who are well organised, who have high quality instructional practices and who have high levels of cultural responsiveness generally tend to be more effective in terms of consistent achievement outcomes. Each of these may be necessary, although the research is not able to determine such an outcome. But it appears that any one by themselves may not guarantee effective teaching.

6.2.2 Instructional coherence over time and between teachers

The two highest performing primary schools in terms of both overall levels and rates of gain (School 'C' and School 'E') had teachers who, over three lessons, scored the highest on the instructional tool and were very consistent and similar in their instructional approaches. While this judgement is very dependent on how the schools selected teachers, the consistency over time and between teachers (teaching at different levels) is striking. Both schools were primary schools but they differed in terms of whether they were in Schooling Improvement and their special nature. Recent large scale studies which have used classroom observations (Croninger & Valli, 2009) and teacher log books (Rowan & Correnti, 2009) report that the overwhelming variation in teachers' instruction is within the same teacher over different lessons, and this variation within teachers is even greater than between teachers. Indeed, the authors of these studies recommend observing at least 6 - 8 lessons per teacher (Croninger & Valli, 2009) or collecting at least 20 logs over a year (Rowan & Correnti, 2009) to gain enough samples to differentiate well between teachers. Having said that, there is also substantial variation between teachers – even among the teachers at the same year level in the same school – which covers a wide range of teaching practices not only in reading comprehension but also writing and word analysis. But in very successful Schooling Improvement models (though success can be quite restricted here, but defined in terms of predictable outcomes on specific aspects of literacy) the wide variation between teachers and within the same teacher over time is reduced.

These relationships were not apparent with the 6 teachers at the three secondary schools. None of the secondary schools had greater than expected gains for Year 9 students. The most consistent secondary school (as judged by the similarity of scores between teachers) was also the school with the highest average for secondary schools, but this school had the lowest gains on asTTle reading. However, one secondary teacher made greater than expected gains. This teacher had a relatively high overall score among the secondary teachers (70.8%).

The tentative conclusion is that well-designed instructional approaches consistently used by the same teachers and consistent between groups of teachers is associated with greater effectiveness. The converse is that inconsistency in approaches over time and between teachers may be a barrier to greater effectiveness. This may apply primarily to primary schools.

7. Language Patterns

A total of 5191 students across 18 schools completed a student survey. In this survey, students were asked about first language spoken, language spoken most at home, birth country, time in New Zealand, and parents' birth country. A copy of the survey can be found in Appendix J. Table 86 to Table 90 below show the break down of numbers and percentages of students for each variable across all students, Focus Clusters, and Case Study Schools. Cluster B (n = 3272) was larger than Cluster A (n = 1192). Case Study Schools ranged from 70 respondents (Case Study 6) to 326 respondents (Case Study 4), both of which were secondary schools.

As a number of students recorded two or more ethnicities on their student survey, their primary ethnicity could not be recorded. We used students' official ethnicity from school enrolment information as the most reliable source for establishing identity. Due to issues such as the timing of receiving data, incompleteness, and unclarity in databases, we were unable to clean and correct all the returns for ethnicity within the timeline of this project. This problem involved 10 schools, so consequently we do not have ethnicity information for 68% of students. AsTTle only provides five broad categories of ethnicity, English; Māori; Pacific; Asian; Other, and so specific Pasifika ethnicity was not available for one school – which has been coded as Pasifika not specified.

Of the 1685 students we had reliable ethnicity information for, 69% were of a Pasifika ethnicity (see Table 86). The most common Pasifika ethnicities of the students were Samoan (30%), Tongan (17%), and Cook Island Māori (12%). The remaining 11% of Pasifika students were from other Pasifika ethnicities such as Tokelauan, Fijian, and Niuean. Cluster A had 75% of students from a Pasifika ethnicity. We did not have reliable ethnicity information for Cluster B. Case Study 1 had the highest percentage of Pasifika students (77%), while Case Study 4 had the lowest percentage of Pasifika students (35%).

For the questions regarding first language spoken and language spoken at home, students were able to record more than one answer. For these analyses a multivariate response tally has been used. This means, for example, that if a student recorded both Samoan and Tongan, they would contribute to the total numbers in both the Samoan and Tongan categories. This type of analysis means the total percentages in two sections of Table 87 (i.e., first language spoken and home language) are over 100%. It is also not possible to use Table 87 to report on total numbers of students speaking a Pasifika language. The total numbers of students speaking a Pasifika language were calculated separately and the numbers are reported below.

Across all respondents to the student survey, 20% reported speaking a Pasifika language as their first language. This is relatively low considering that approximately 69% of students were from a Pasifika ethnicity. This suggests that more than half of Pasifika students did not learn their community language as their main first language, although the question did ask "What is the first language that you learned?" Most students chose to record one language only, in which case they may still have had some fluency in their community language. 12% of students reported that their first language was Samoan, and 6% reported that Tongan was their first language. In Cluster A, 64% of students reported speaking a Pasifika language first compared with 10% in Cluster B. Due to problems with data we do not know the ethnicity breakdown across Cluster B.

The percentage of students who reported speaking a Pasifika language at home was 16%, which is a decrease from the number of students who first spoke a Pasifika language (20%). While students were able to record

more than one language the phrasing of the question "Which language do you speak most at home?" may have limited students to recording one language and, therefore, reporting the language they spoke most. As was the case for first language spoken, there was a large difference between the two clusters. 36% of students in Cluster A and 8% of students in Cluster B reported speaking a Pasifika language at home. This is reflective of the difference in percentage of students born in a Pasifika country.

Overall 13% of students reported being born in a Pasifika country, while most (75%) reported being born in New Zealand. Cluster A had 23% and Cluster B had 9% of students born in a Pasifika country. Of the students not born in New Zealand, most (11% of all students) reported having lived in New Zealand for more than five years. Only a small proportion (2%) reported having been in New Zealand for less than a year.

Across all respondents, 39% of students had either one or both parents born in a Pasifika country. There was variance between the Focus Clusters with 73% in Cluster A and 24% in Cluster B with at least one parent born in the Pacific region.

Student's birth country information was cross-tabulated with parent's birth country information to determine what percentage of students were first generation, born in New Zealand from the Pacific Region. Across all students 19% were born in New Zealand and had both parents born in the Pacific Region. In Cluster A this group made up 40.8% of surveyed students, while in Cluster B only 10% were in this category.

Table 86: Ethnicity demographics for All Students Combined

		Total Respondents		Available Respondents	
		(*N* = 5191)	%	(*n* = 1685)	%
Ethnicity					
	Tokelauan	8	0.15%	8	0.47%
	Fijian	12	0.23%	12	0.71%
	Niuean	54	1.04%	54	3.20%
	Tongan	291	5.61%	291	17.27%
	Cook Island Māori	195	3.76%	195	11.57%
	Samoan	501	9.65%	501	29.73%
	Other Pacific Islands	8	0.15%	8	0.47%
	Pasifika not specified	96	1.85%	96	5.70%
	NZ European/Pakeha	67	1.29%	67	3.98%
	NZ Māori	344	6.63%	344	20.42%
	Other	109	2.10%	109	6.47%
	Missing	3506	67.54%		

Table 87: Language demographics for All Students Combined

		Total Respondents	
		(*N* = 5191)	%
First Language Spoken			
	Māori	191	3.68%
	Tokelauan	5	0.10%
	Fijian	18	0.35%
	Niuean	29	0.56%
	Tongan	289	5.57%
	Cook Island Māori	71	1.37%
	Samoan	611	11.77%
	Other Pasifika	42	0.81%
	Other	517	9.96%
	English	3533	68.06%
	Missing	74	1.43%
Home Language			
	Māori	59	1.14%
	Tokelauan	2	0.04%
	Fijian	16	0.31%
	Niuean	22	0.42%
	Tongan	252	4.85%
	Cook Island Māori	49	0.94%
	Samoan	489	9.42%
	Other Pasifika	31	0.60%
	Other	409	7.88%
	English	4182	80.56%
	Missing	28	0.54%
Students' Birth Country			
	New Zealand	3884	74.82%
	Tokelau	3	0.06%
	Fiji	139	2.68%
	Niue	12	0.23%
	Tonga	114	2.20%
	Cook Islands	53	1.02%
	Samoa	315	6.07%
	Other Pacific Islands	28	0.54%
	Other	587	11.31%
	Missing	56	1.08%
Time in New Zealand			
	< 1 year	88	1.70%
	1 - 5 years	505	9.73%
	> 5 years	567	10.92%
	Born in NZ	3884	74.82%
	Missing	147	2.83%
Parents' Birth Country			
	Pacific Region	1634	31.48%
	New Zealand	1885	36.31%
	Pacific Region / New Zealand	386	7.44%
	Other	1047	20.17%
	Missing	239	4.60%

Table 88: Language and Ethnicity demographics for Focus Cluster Students

		Cluster A		Cluster B	
		(*n* = 1192)	%	(*n* = 3272)	%
Ethnicity					
	Tokelauan	8	0.67%		
	Fijian	8	0.67%		
	Niuean	51	4.28%		
	Tongan	262	21.98%		
	Cook Island Māori	165	13.84%		
	Samoan	399	33.47%		
	Other Pacific Islands	1	0.08%		
	Pasifika not specified	0	0.00%		
	NZ European/Pakeha	12	1.01%		
	NZ Māori	158	13.26%		
	Other	39	3.27%		
	Missing	89	7.47%		
First Language Spoken					
	Māori	40	3.36%	105	3.21%
	Tokelauan	3	0.25%	2	0.06%
	Fijian	4	0.34%	11	0.34%
	Niuean	20	1.68%	8	0.24%
	Tongan	171	14.35%	57	1.74%
	Cook Island Māori	58	4.87%	10	0.31%
	Samoan	297	24.92%	188	5.75%
	Other Pasifika	0	0.00%	39	1.19%
	Other	40	3.36%	432	13.20%
	English	587	49.24%	2485	75.95%
	Missing	17	1.43%	50	1.53%
Home Language					
	Māori	9	0.76%	33	1.01%
	Tokelauan	0	0.00%	2	0.06%
	Fijian	4	0.34%	10	0.31%
	Niuean	13	1.09%	6	0.18%
	Tongan	163	13.67%	47	1.44%
	Cook Island Māori	34	2.85%	11	0.34%
	Samoan	219	18.37%	157	4.80%
	Other Pasifika	0	0.00%	28	0.86%
	Other	34	2.85%	345	10.54%
	English	785	65.86%	2817	86.09%
	Missing	15	1.26%	11	0.34%
Students' Birth Country					
	New Zealand	844	70.81%	2476	75.67%
	Tokelau	2	0.17%	1	0.03%
	Fiji	12	1.01%	111	3.39%
	Niue	8	0.67%	4	0.12%
	Tonga	81	6.80%	22	0.67%
	Cook Islands	33	2.77%	14	0.43%
	Samoa	141	11.83%	103	3.15%
	Other Pacific Islands	0	0.00%	26	0.79%
	Other	58	4.87%	472	14.43%
	Missing	13	1.09%	43	1.31%
Time in New Zealand					
	< 1 year	17	1.43%	62	1.89%
	1 - 5 years	138	11.58%	303	9.26%
	> 5 years	141	11.83%	344	10.51%
	Born in NZ	844	70.81%	2476	75.67%
	Missing	52	4.36%	87	2.66%
Parents' Birth Country					
	Pacific Region	753	63.17%	587	17.94%
	New Zealand	203	17.03%	1437	43.92%
	Pacific Region / New Zealand	116	9.73%	184	5.62%
	Other	63	5.29%	901	27.54%
	Missing	57	4.78%	163	4.98%

Table 89: Language and Ethnicity demographics for Primary Case Study Students

	Case Study 1		Case Study 3		Case Study 5	
	(*n* = 225)	%	(*n* = 99)	%	(*n* = 232)	%
Ethnicity						
Tokelauan	2	0.89%	0	0.00%		
Fijian	2	0.89%	0	0.00%		
Niuean	20	8.89%	2	2.02%		
Tongan	46	20.44%	19	19.19%		
Cook Island Māori	39	17.33%	10	10.10%		
Samoan	64	28.44%	30	30.30%		
Other Pacific Islands	1	0.44%	1	1.01%		
Pasifika not specified	0	0.00%	0	0.00%		
NZ European/Pakeha	0	0.00%	10	10.10%		
NZ Māori	35	15.56%	13	13.13%		
Other	8	3.56%	0	0.00%		
Missing	8	3.56%	14	14.14%		
First Language Spoken						
Māori	8	3.56%	2	2.02%	3	1.29%
Tokelauan	0	0.00%	0	0.00%	0	0.00%
Fijian	0	0.00%	0	0.00%	2	0.86%
Niuean	6	2.67%	0	0.00%	1	0.43%
Tongan	22	9.78%	20	20.20%	17	7.33%
Cook Island Māori	12	5.33%	1	1.01%	0	0.00%
Samoan	44	19.56%	29	29.29%	41	17.67%
Other Pasifika	0	0.00%	1	1.01%	0	0.00%
Other	9	4.00%	0	0.00%	18	7.76%
English	129	57.33%	48	48.48%	155	66.81%
Missing	5	2.22%	0	0.00%	3	1.29%
Home Language						
Māori	3	1.33%	0	0.00%	1	0.43%
Tokelauan	0	0.00%	0	0.00%	0	0.00%
Fijian	0	0.00%	0	0.00%	0	0.00%
Niuean	6	2.67%	1	1.01%	1	0.43%
Tongan	19	8.44%	11	11.11%	13	5.60%
Cook Island Māori	5	2.22%	1	1.01%	0	0.00%
Samoan	32	14.22%	26	26.26%	41	17.67%
Other Pasifika	0	0.00%	1	1.01%	0	0.00%
Other	9	4.00%	0	0.00%	10	4.31%
English	160	71.11%	64	64.65%	181	78.02%
Missing	4	1.78%	1	1.01%	1	0.43%
Students' Birth Country						
NZ	165	73.33%	76	76.77%	194	83.62%
Tokelau	0	0.00%	0	0.00%	0	0.00%
Fiji	3	1.33%	0	0.00%	3	1.29%
Niue	2	0.89%	0	0.00%	0	0.00%
Tonga	9	4.00%	3	3.03%	2	0.86%
Cook Islands	11	4.89%	1	1.01%	0	0.00%
Samoa	14	6.22%	15	15.15%	10	4.31%
Other Pacific Islands	0	0.00%	1	1.01%	0	0.00%
Other	14	6.22%	3	3.03%	23	9.91%
Missing	7	3.11%	0	0.00%	0	0.00%
Time in New Zealand						
< 1 year	6	2.67%	3	3.03%	1	0.43%
1 - 5 years	18	8.00%	13	13.13%	9	3.88%
> 5 years	21	9.33%	6	6.06%	26	11.21%
Born in NZ	165	73.33%	76	76.77%	194	83.62%
Missing	15	6.67%	1	1.01%	2	0.86%
Parents' Birth Country						
Pacific Region	134	59.56%	65	65.66%	89	38.36%
New Zealand	34	15.11%	15	15.15%	54	23.28%
Pacific Region / New Zealand	24	10.67%	11	11.11%	49	21.12%
Other	14	6.22%	6	6.06%	35	15.09%
Missing	19	8.44%	2	2.02%	5	2.16%

Table 90: Language and Ethnicity demographics for Secondary Case Study Students Combined

	Case Study 2		Case Study 4		Case Study 6	
	(*n* = 232)	%	(*n* = 326)	%	(*n* = 70)	%
Ethnicity						
Tokelauan	0	0.00%	0	0.00%		
Fijian	0	0.00%	4	1.23%		
Niuean	0	0.00%	1	0.31%		
Tongan	0	0.00%	10	3.07%		
Cook Island Māori	0	0.00%	20	6.13%		
Samoan	0	0.00%	72	22.09%		
Other Pacific Islands	0	0.00%	6	1.84%		
Pasifika not specified	96	41.38%	0	0.00%		
NZ European/Pakeha	21	9.05%	24	7.36%		
NZ Māori	35	15.09%	138	42.33%		
Other	47	20.26%	23	7.06%		
Missing	33	14.22%	28	8.59%		
First Language Spoken						
Māori	11	4.74%	32	9.82%	9	12.86%
Tokelauan	1	0.43%	0	0.00%	0	0.00%
Fijian	2	0.86%	1	0.31%	0	0.00%
Niuean	4	1.72%	0	0.00%	0	0.00%
Tongan	6	2.59%	5	1.53%	19	27.14%
Cook Island Māori	2	0.86%	2	0.61%	0	0.00%
Samoan	34	14.66%	50	15.34%	6	8.57%
Other Pasifika	6	2.59%	1	0.31%	1	1.43%
Other	53	22.84%	27	8.28%	0	0.00%
English	141	60.78%	220	67.48%	38	54.29%
Missing	0	0.00%	4	1.23%	0	0.00%
Home Language						
Māori	4	1.72%	11	3.37%	5	7.14%
Tokelauan	1	0.43%	0	0.00%	0	0.00%
Fijian	2	0.86%	2	0.61%	0	0.00%
Niuean	2	0.86%	1	0.31%	0	0.00%
Tongan	7	3.02%	4	1.23%	14	20.00%
Cook Island Māori	2	0.86%	3	0.92%	0	0.00%
Samoan	26	11.21%	42	12.88%	4	5.71%
Other Pasifika	4	1.72%	1	0.31%	1	1.43%
Other	50	21.55%	20	6.13%	0	0.00%
English	179	77.16%	278	85.28%	57	81.43%
Missing	0	0.00%	0	0.00%	0	0.00%
Students' Birth Country						
NZ	145	62.50%	230	70.55%	64	91.43%
Tokelau	0	0.00%	0	0.00%	0	0.00%
Fiji	19	8.19%	13	3.99%	0	0.00%
Niue	2	0.86%	0	0.00%	0	0.00%
Tonga	2	0.86%	5	1.53%	1	1.43%
Cook Islands	3	1.29%	5	1.53%	0	0.00%
Samoa	21	9.05%	45	13.80%	1	1.43%
Other Pacific Islands	2	0.86%	0	0.00%	1	1.43%
Other	38	16.38%	28	8.59%	3	4.29%
Missing	0	0.00%	0	0.00%	0	0.00%
Time in New Zealand						
< 1 year	14	6.03%	5	1.53%	0	0.00%
1 - 5 years	35	15.09%	41	12.58%	1	1.43%
> 5 years	38	16.38%	45	13.80%	5	7.14%
Born in NZ	145	62.50%	230	70.55%	64	91.43%
Missing	0	0.00%	5	1.53%	0	0.00%
Parents' Birth Country						
Pacific Region	95	40.95%	109	33.44%	31	44.29%
New Zealand	60	25.86%	144	44.17%	32	45.71%
Pacific Region / New Zealand	25	10.78%	22	6.75%	4	5.71%
Other	51	21.98%	39	11.96%	3	4.29%
Missing	1	0.43%	12	3.68%	0	0.00%

8. Conclusions

The overarching research questions in this report were:

- What works in schools for Pasifika students and under what conditions?
- What are the barriers to schools achieving positive learning outcomes for Pasifika students?

The research questions specific to Schooling Improvement were:

- Are the nine existing Schooling Improvement initiatives with significant numbers of Pasifika students bringing about significant gains in achievement for Pasifika students, and if so, what are the gains from each initiative and each school within the initiatives?
- What, if any, are the differences between the gains seen in the Schooling Improvement initiatives for different student groups within Pasifika (ethnicity, gender, generation in New Zealand, language)?
- If there were any significant positive gains identified in response to questions 3 and 4 above, what appears to have contributed to those gains?

These questions have been answered in a variety of ways and in this conclusions section we summarise those answers with a brief commentary.

8.1 General Effectiveness of Schooling Improvement Projects for Pasifika students

This question cannot be answered at a generalised level. The reasons are detailed in the body of the report and in the accompanying paper 'A systems level approach to learning from aggregated achievement data: Implications for policy' (Lai, McNaughton & Amituanai-Toloa, 2009). A full answer to this question will need to draw on much better databases than currently exist and recommendations about guiding principles and systems which would enable these to develop are contained in the paper.

From the data from three clusters with varying types of databases for Years 4 - 8 in reading comprehension (one of whom was also a Focus Cluster) it appears that the following conclusions are possible. The first is that clusters vary in effectiveness for their Pasifika students, which is not a surprising outcome given that programmes in the United States can be shown to have differential effects (Borman, 2005). Two of the clusters made accelerated gains during individual school years with average effect sizes (*d*) for the clusters of between 0.2 and 0.5. Over two years Cluster A had an effect size (*d*) of 0.5.

The two clusters that made greater than expected progress within years had varying drops associated with summer (the 'Summer Learning Effect'). This meant that two out of three clusters showed evidence that continued gains were slowly and cumulatively enabling average achievement levels to reach average bands. However, the levels were still low and the data show that across clusters more gains are needed to reach a full match with a nationally expected distribution in achievement, which is the most rigorous criterion we can apply (McNaughton & Lai, 2009). Overall, then, the most effective Schooling Improvement projects can 'work' to make a real educational difference. However, the progress is slow and cumulative, and clearly from the descriptions of the projects requires substantial resourcing and long term focus. Again, these are not

surprising conclusions given the international picture (Borman, 2005). But it is important at least to be able to make a qualified positive answer to the question.

The second conclusion is that in the overview of clusters there was no evidence that different Pasifika groups were substantially different in their response to the programmes in Schooling Improvement either in terms of rate of gain or levels.

Thirdly, there is evidence that there are substantial gender differences in the levels achieved, although rates of gains can be similar (creating a progression which is like 'parallel tracks'). The gender differences are well known nationally also (Crooks & Flockton, 2005b). But what this means is that the focus on Pasifika groups needs to have, even within this differentiation, a possible differentiation in instructional focus for boys.

These general results were supported by the data where available from the clusters with less evidence. But we also examined these questions of overall effectiveness and differential effectiveness in the Focus Cluster (again with a focus on reading comprehension in Years 4 - 9). We used more detailed statistical procedures to provide answers.

In these analyses again there were gender differences in the levels achieved although not in the rate of gains, and while different Pasifika groups achieved at similar rates, Samoan students tended to score at higher levels (but not always). The more detailed analyses showed differences between classrooms (although all but a few classroom made accelerated gains during years), and at the school level (over two years the effect sizes across schools varied from $d = 0.30$ to 0.77). From these analyses we found there were high gain and low gain schools within the cluster and it will be important for further research to tease out the features of schools associated with these differences (Lai, McNaughton, Amituanai-Toloa et al., 2009).

Two sorts of models were developed to further explore patterns. One set were 'gap difference' models which explored patterns of achievement over time in terms of rates of gain over different time points. The second set of models were 'level difference' models and these collapsed the averages over time to examine patterns in overall levels of achievement. The overall findings from the former were that across the two 'gap difference' models, no evidence of a language effect, country of birth effect, or gender effect was found. A student's starting level predicted the rate at which gains were made – higher gains were made by students who were in the lower stanines. But over time these differences disappeared. The initial effect on lower achieving students is not uncommon in intervention studies, as is the case in the national LPDP intervention (Parr et al., 2007).

What this means specifically for Pasifika Schooling Improvement is that judgements about effectiveness need to be made over more than a year and it is very important to be able to examine how higher achieving students fare in programmes.

There were complicated school effects in the 'gap difference' models. But these are hard to interpret because of the presence of different cohort groups associated with the full primary, contributing primary, intermediate and middle schools in the cluster.

For the 'level difference' models where we examined the achievement levels aggregated across four tests, gender, time lived in New Zealand, home language, and school were associated with significantly different levels of achievement. Overall, the mean scores for the students that spoke mainly Pasifika languages and those that spoke two or more languages (Pasifika language as well as English) were significantly lower than that for the mainly English-speaking students. The mean scores for females were significantly higher than

that for males. With respect to the length of time lived in New Zealand, the mean scores for those that had lived in New Zealand for more than five years and those that were born in New Zealand were significantly higher than those that had lived in New Zealand between one and five years. The mean levels of achievement differed significantly between schools, and part of this difference could be due to the different year levels (i.e., cohorts) that the schools catered for.

These two sets of models underline an implication for further evaluations of interventions. It is the need to have two related criteria for judging the educational significance of interventions, especially in terms of equitable outcomes (McNaughton & Lai, 2009). The tests of effectiveness should firstly be whether clusters are achieving accelerated rates of achievement and secondly whether they are shifting distributions of achievement to match national expectations. The former sets the test at being about making more than just a normal rate of progress because that would perhaps mean higher levels but parallel tracks of achievement. The latter sets the test as achievement for students in the schools being no different from the distribution of the achievement for students nationally (i.e., the same proportions of low, middle and high achieving students).

The case studies add more qualitative evidence to these outcomes. They also modify some of the conclusions at a school level. What they further contribute is not only the indicators of success but also by corollary what doesn't work for Pasifika learners.

8.2 Connectedness

The relationship between a school and its families is important (Bronfenbrenner, 1979). The case studies suggest greater effectiveness deriving from practices that involve sharing knowledge and resources with a degree of reciprocity, with the specific outcome of increasing parent involvement which may then improve students' motivation and academic skills. It is likely that parents' involvement enhances achievement through both skill and motivational development (Pomerantz et al., 2007). Putting together the evidence across the various sources, three conclusions were suggested: (a) parents' understanding of information about their own individual child's learning and achievement, including both strengths and weaknesses as well as progress across time, can increase parental impact on motivation and skills; but (b) parents need guidance and advice on both motivational and academic involvement; and (c) parents are keen to receive advice and have ideas about practices both at home and at school that could contribute. These may or may not be effective but they are important ideas that can be the basis of reciprocity - an example is the role and forms of homework. The findings of substantial (but variable) Summer Learning Effects underscores the need to more deliberately develop and share practices between school and family settings.

8.3 Inquiry and Collective Efficacy

The hypothesis about developing inquiry practices that are evidence-based and outcomes-focused was well illustrated in the case studies. The Lai et al. studies (Lai, McNaughton, & Amituanai-Toloa 2009; Lai, McNaughton, Amituanai-Toloa et al., 2009; Lai, McNaughton, Timperley et al., 2009) suggest the importance of collaborative inquiry, i.e., the role of professional learning communities in inquiring into their own data. Building a sense of collective efficacy in schools is important also because it is a predictor of student achievement (Bandura, 1995). Each of the Case Study Schools was engaged in clusters of Schooling Improvement which focus on inquiry and it would be expected that these practices would be in place. But the schools varied in how deeply ingrained, extensive and coherent their practices are. The patterns suggest that

greater coherence will be associated with greater effectiveness. Coherence matters: (a) between levels in the schools, across members of the school professional community, and between different instructional parts including teachers; (b) for new members of the system so that detailed induction as a member sharing values and skills is important; and (c) so that all programmes – existing and new – are integrated into the inquiry practices and are 'tested' by the inquiry process. The coherence between teachers appears to be especially significant so that there is consistency in pedagogical approaches as well as in focus and goals.

8.4 Pedagogy and Cultural Responsiveness

There was some ambiguity detected in the data in how these terms are used, and there is a need to clarify more specifically what is meant by these terms. However, in general, the evidence across schools was that the schools to varying degrees taught using generically effective forms of instruction but adapted them to be applicable to and responsive to different Pasifika learners. At a general level, cultural responsiveness is a dimension of generically effective instruction.

The specific measures from classroom instruction when examined at a teacher level were not related systematically to either rate of gain in their classroom or achievement levels. However, when combined and averaged across schools, there was evidence that the teachers' measures of instructional quality and cultural responsiveness were associated with overall school achievement. The highest scoring schools had higher levels on these measures and moderate to high rates of gain. This suggests that coherence in instruction and cultural responsiveness in schools may be more important than individual teachers' expertise.

It is possible to identify elements of what the model is that the schools are moving towards. Clearly, schools are effective to the degree that they use known attributes such as explicit instruction for both basic knowledge and strategies, high levels of elaborative talk and inquiry are promoted, there is a focus on the language needs including those for vocabulary and there are well-developed forms of feedback. Running across these is the need to be clear and explain goals and needs for learning. On the other hand, specific dimensions of cultural responsiveness are clearly part of more effective teaching. The twin dimensions of positive relations and incorporating students' resources were identified to varying degrees in classrooms. Importantly, these themes were echoed by the students. Pasifika pedagogies that are being developed in these schools, in the sense of being adapted to Pasifika learners, draw on background knowledge including topics and event knowledge, language patterns and activities, and the students and teachers are aware of this. But in addition, there is the dimension of a strong emotional relationship which, together with the instructional attributes, has elements of being both rigorous and challenging as well as being respectful and empathetic. The former includes the high expectations and the latter a Pasifika sense for the students of education being service-oriented and, from the teacher, positive affect expressed with devices such as Pasifika-oriented humour.

8.5 Leadership and Pedagogical Content Knowledge

The analysis of the leadership survey revealed no consistent patterns, either across clusters or across schools. Ratings were moderate to high across all sections. We do not report further details in any of the results sections but have summarised the results in Section 4.

There was no significant correlation between total PCK scores and any of the achievement measures (level or rate of gain). It may be that, like the classroom observations, the more significant relationship might be

with school level of gains, reflecting the dimension of coherence across teachers. It may also be that the 'inert' measures of PCK (pencil and paper tests) are not useful. There was no significant correlation between total PCK scores and any of the demographic indices. There was no consistent pattern of relationship with subsections either, and so we assume this measure of PCK does not accurately distinguish between different forms of effective knowledge. It may be that we will need to design measures which tap 'enactive' knowledge (actual reflections in situ) rather than this 'inert' form of knowledge to find relationships.

8.6 Pasifika Learners

The student voices were very similar to those from the Te Kotahitanga project (Bishop et al., 2003) but the adaptations suggested above include a need for teachers to provide a strongly supportive base enabling the students to take risks and be critical and engaged. The evidence supports previous research showing Pasifika learners to be generally highly motivated to succeed and to be willing to learn across the schools. Students are more consistently positive and motivated at primary schools (but this is true generally, and there is a more general need to consider how to increase engagement and emotional connection at secondary levels; Paris & McNaughton, in press). If we only look at language status from the point of view of achievement, and putting the conclusion negatively, there is no evidence that having two or more languages is an impediment to high success either at primary or at secondary. The patterns of development may look different for those students with a Pasifika language or both a Pasifika and English language background in the earlier years, compared with English only students. But from the middle and upper primary and into the secondary years the sense is that bilingualism may (under important conditions not tested here, such as level of bilingualism) lead to similar outcomes as having a strong English-only status, and in the wider sense indicated in the Introduction confer other advantages. There is perhaps an obvious suggestion in the data that more familiarity with the New Zealand education system is advantageous and we take this to mean that for newly arrived students there is a need to have very explicit induction and support to develop the knowledge and skills required for schooling.

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Appendices

Appendix A Data Request Letter for Pasifika Schooling Improvement Research

Pasifika SI Research – Phase One Data Requirements and Questionnaire

For Phase One (the 9-initiative data collection), we would like to collect data about student achievement from each initiative:

Please email or post the data to Meaola Amituanai-Toloa by **Friday June 27th** at the following address: Dr Meaola Amituanai-Toloa, c/o Staff, Faculty of Education, University of Auckland, Gate 3, 74 Epsom Ave, Auckland 1150. Contact: 09 623 8899 x 82506 or Email: m.toloa@auckland.ac.nz

We will need the following data:

A. Reports containing any existing analyses of cluster-wide summary data – for as far back as you have reliable data available e.g. Ministry Milestone reports showing cluster data, analyses reports from an external provider like reports from NZCER.
   a. We would really like the summaries to contain descriptions of achievement over time e.g. Term 1 and Term 4 data for 2007.
   b. We need the summaries to have details of the numbers of students involved, at what year levels, gender and the ethnicities. Hopefully the summaries show the achievement in terms of all students, students across year levels, and achievement by ethnicity and gender.

If you don't have these details in the summaries, please tell us the reason so that we are in a better position to provide feedback to you to support the goals of the initiative (It might be because you don't have the resources to gather such data, or it might be that you do not have someone who can do the data analysis etc…)

Reason:_____

B. If you have a cluster database, can you please send us in addition to the above the raw data behind one part of the summary. The reason for this is so that we can have a consistent view of how you prepared summaries across the initiatives, to better understand how you have prepared the summaries and following feedback from the last meeting, to check how the summaries are being prepared. So, please select one part of the summary such as a table about year levels and achievement and send us the raw data if it is available (e.g. in SPSS, Excel or other data base). Ideally we would like the table to be one of achievement over a year at two time points. An example table is below:

Example of a Table from a summary:

STAR results: Average stanines for Year 6 students across cluster in 2007

	Time 1 (Feb 2007)	**Time 2 (Nov 2007)**	**Gain**
Total students (n= 200)	M = 4.7	M = 5.2	M = 0.5
Pasifika (n = 100)	M = 4.0	M = 4.5	M = 0.5

If you don't have these details in the summaries, please tell us the reason so that we are in a better position to provide feedback to you to support the goals of the initiative (It might be because you don't have the resources to gather such data, or it might be that you do not have someone who can do the data analysis etc…)

Reason:_____

C. Please send us a copy of the latest cluster plan which contains the goals and purposes of the initiative and the strategic plan for carrying that out (e.g. your annual plan for 2008 which contains the goals for the year, the yearly targets and the professional development to address these goals)

D. Finally, following feedback from our last meeting, we would like to know more about the data in your databases

a. Was there a cluster-wide way of standardizing the administration of the test?

☐ [1]*Yes* ☐ [2]*No* ☐ [3] *Don't know*

If yes, describe how the administration was standardised?

_____

_____

_____

b. Did schools in your cluster standardize the administration of the test within the school?

☐ [1]*Yes* ☐ [2]*No* ☐ [3] *Don't know*

If yes, describe how the administration was standardised?

_____

_____

_____

c. Was there a cluster-wide way of checking that the data were accurate before it was analyzed? (e.g. analyses reports run to check the numbers in each year level)

☐ [1]*Yes* ☐ [2]*No* ☐ [3] *Don't know*

If yes, describe how the data were checked for accuracy?

_____

_____

_____

d. Do you know if schools in your cluster checked for the accuracy of data within the school?

☐ [1]*Yes* ☐ [2]*No* ☐ [3] *Don't know*

If yes, describe how the data were checked for accuracy?

_____

_____

_____

Thank you for your time in sending us this information.

If you have any questions about the data required, please contact: Dr Mei Kuin Lai,
Contact: 09 3737599 extn. 48142 or Email: mei.lai@auckland.ac.nz

Appendix B Interview Questions on Leadership and Management with School Principals

Questions on Leadership and Management (for discussion with the Principals):

In your school:

1. What Schooling Improvement initiatives have been implemented in your school which directly relate to Pacific Island students? How effective do you think they are for Pacific Island students?

2. Describe how the Ministry of Education support your school.

3. What strategies have been put in place in your school as a focus on raising Pacific Island student achievement?

4. What services are provided for Pacific Island students who may be struggling academically?

5. What support do you provide for teachers and literacy leaders (including those new to your school and those who have been there for some time) when they require assistance with teacher development for targeting Pacific Island student achievement?

6. What strategies have been put in place in your school to involve Pacific Island parents and families in the school, and in their children's learning? How are these aligned with school goals and your beliefs?

7. Of all the strategies that you have in place at your school, and in your schooling improvement cluster, which one thing do you think is most effective in helping Pacific Island students achieve?

8. What can you see as a future goal or focus that could possibly be put in place by your school to assist further with the academic achievement of Pacific Island students?

9. What would you like the Ministry of Education and/or Schooling Improvement to provide for your school?

Appendix C Interview Questions on Leadership and Management with Literacy Leaders

Questions on Leadership and Management (for discussion with the Literacy Leaders):

In your school:

1. What Schooling Improvement initiatives have been implemented in your school which directly relate to Pacific Island students? How effective do you think they are for Pacific Island students?

2. Describe how the Ministry of Education support your school.

3. What literacy and numeracy strategies have been put in place in your school as a focus on raising Pacific Island student achievement?

4. What services are provided for Pacific Island students who may be struggling academically?

5. What support do you receive as a literacy leader when you require assistance with teacher development for targeting Pacific Island student achievement?

6. What support do you provide classroom teachers with in relation to teaching Pasifika students?

7. How does your literacy programme involve Pacific Island parents and families in the school? How are these aligned with school goals and your beliefs?

8. Of all the strategies that you have in place at your school, and in your schooling improvement cluster, which one thing do you think is most effective in helping Pacific Island students achieve?

9. What can you see as a future goal or focus that could possibly be put in place by your school to assist further with the academic achievement of Pacific Island students?

10. What would you like the Ministry of Education and/or Schooling Improvement to provide for your school?

Appendix D Student Interview Questions

General questions first to get demographics:

1. What is your name
2. How old are you?
3. Are you Samoan etc?
4. What language/s do you speak at home?
5. Were you born in NZ or in the Islands?

…then the 5 guiding questions:

These are:

1. What do you think about school?

    - in here we ask about (a) 'what is their big dream?' (b) do they think that the school is progressing them towards that dream?

2. How do you feel about school? Teachers? Other students?

    - in here we ask about (a) how they feel about homework given by teacher (b) homework time at home

3. Do you like the way the teacher is teaching you in school? What are some of the things you like about the way your teacher teaches?

    - in here we ask about (a) what are some of the things you want to learn about but not taught in school (b) ask about language i.e. do you prefer your language to be used by teachers if you don't understand?

4. Is there anything you want changed in the school to make you learn more?

5. Is there anything else you would like to tell me about how you might succeed in your education?

I hope these guiding questions are ok? But just elaborate in response to whatever the students say.

Appendix E Parent Interview Questions

There were five questions guiding the talanoa:

1. What dreams do you have for your child's education?
2. What sort of support is the school giving you in order to help your child?
3. What sorts of things might you suggest that would enable the school and you to help your children achieve?
4. What do you do to support your child and do you ask the school for help?
5. What are your expectations of schools?

Appendix F Schooling Improvement (Pasifika) Primary School Leadership Survey

PASIFIKA SCHOOLING IMPROVEMENT LEADERSHIP SURVEY

The purpose of the Schooling Improvement (Pasifika) Leadership Survey is to gauge your professional view on the provision and implementation of activities for Pasifika students by your school management team. This in turn will provide us with a better understanding of the procedures that currently exist within your school and it will enable us to provide more appropriate feedback.

This survey consists of six sections and it will take approximately 30 – 40minutes to complete. Your time and professional input is greatly appreciated.

Principal Investigator
Dr Meaola Amituanai-Toloa

Name: _____

School: _____

Position in school (please circle more than one, if appropriate):

* Principal * DP *AP *Lead Teacher * Teacher

Your ethnicity: _____ Gender: _____

Age bracket (please circle):
30 or under
31-40
41-50
51-60
over 60

Year level/s: _____

Subject Specialism(s): _____

Qualifications: (e.g. Certificate in teaching, Diploma in teaching, BEd, BA (English) etc)

Please list in full:

_____

_____

_____

Institution & country trained:

_____

Number of years you have been teaching: _____

Length of time in present school: _____

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 (see below). By school leaders, we mean the management team – Principal, DP etc.

1	=	Never
2	=	Rarely
3	=	Sometimes
4	=	Most of the time
5	=	Always

Strong Instructional Leadership of the Principal/ School leaders

1. The principal makes Pasifika student achievement one of the school's top goals. _____

2. The stated goal/s and mission for Pasifika academic achievement is clear and in concrete terms. _____

3. The principal ensures that the learning needs of Pasifika students are met. _____

4. School leaders, in developing the school's Pasifika improvement plan, work with teachers, Pasifika students and their parents. _____

5. There is ongoing two-way communication between the school leaders and school personnel about ways forward for Pasifika achievement. _____

6. The school leaders regularly observe classroom instruction. _____

7. The school leaders regularly provide feedback to teachers of Pasifika students with regard to their classroom instruction. _____

8. School leaders and staff share in leadership roles, using individual and team strengths to build up Pasifika academic achievement. _____

9. The principal makes sure there are sufficient resources available for teachers of Pasifika students for effective instruction. _____

10. The principal ensures that there is an effective, ongoing system for evaluating the school's progress toward its Pasifika achievement mission and goal/s. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 (see below). By school leaders, we mean the management team – Principal, DP etc.

1 = Never
2 = Rarely
3 = Sometimes
4 = Most of the time
5 = Always

Strong emphasis on academics

11. Class time is used effectively for instruction. _____

12. Teachers present classroom content and activities in ways that are relevant and interesting to Pasifika students. _____

13. Instruction is geared to having Pasifika students actively involved in learning. _____

14. Pasifika students are given enough time to master the basic skills. _____

15. Pasifika students who need extra help get it. _____

16. Teachers maximize Pasifika student time-on-task. _____

17. Teachers continually assess the effects of their instruction on Pasifika academic achievement to modify their teaching. _____

18. Teachers collaborate to develop/refine the academic curriculum to be inclusive and culturally responsive to Pasifika students. _____

19. Teachers use methods such as cooperative learning, peer tutoring, and computer-assisted instruction to promote learning success for Pasifika students in the school. _____

20. Teachers participate in professional development activities to keep up-to-date on instructional practices pertinent to Pasifika achievement. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 (see below). By school leaders, we mean the management team – Principal, DP etc.

1	=	Never
2	=	Rarely
3	=	Sometimes
4	=	Most of the time
5	=	Always

High Expectations for Pasifika Student Achievement

21. All Pasifika students are expected to learn a full range of skills—from basic memorisation to complex problem solving. _____

22. Teachers believe that all Pasifika students can master the basic skills in literacy and numeracy. _____

23. Teachers clearly inform Pasifika students and their parents of what students are expected to know and be able to do by the end of the unit or term. _____

24. School standards are both challenging and attainable for Pasifika students. _____

25. All staff have high expectations for Pasifika student achievement. _____

26. All staff believe that Pasifika students can learn regardless of their ability. _____

27. All teachers assume responsibility for Pasifika student learning. _____

28. Pasifika students are encouraged and shown to set high learning goals for themselves. _____

29. Teachers foster the development of independent learning for Pasifika students. _____

30. Time spent in withdrawal programmes e.g. ESOL, Learning Centre etc, is expected to be short and effective. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 (see below). By school leaders, we mean the management team – Principal, DP etc.

1 = Never
2 = Rarely
3 = Sometimes
4 = Most of the time
5 = Always

Frequent Monitoring of Student Progress

31. Teachers often give Pasifika students constructive feedback on their progress. _____

32. Teachers promptly evaluate and return homework. _____

33. Teachers diagnose academic problems early. _____

34. Teachers clearly explain their assessment criteria for achievement grade levels. _____

35. Teachers give clear instructions before assigning seatwork or homework. _____

36. The school-wide behaviour management policy are consistently and effectively used for Pasifika students. _____

37. Pasifika students are given an active role in assessing and evaluating their own progress. _____

38. Teachers use tests and other forms of assessment to evaluate Pasifika student learning. _____

39. Information from monitoring Pasifika students' progress is used to adapt instruction to meet individual student needs. _____

40. Results from Pasifika students' progress are used to plan weekly instruction. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 (see below). By school leaders, we mean the management team – Principal, DP etc.

1	=	Never
2	=	Rarely
3	=	Sometimes
4	=	Most of the time
5	=	Always

Positive School Climate

41. The school is clean and comfortable. _____

42. People in the school and those that come into the school feel safe at this school. _____

43. The school staff really cares about Pasifika students. _____

44. Pasifika students in our school want to learn. _____

45. There is an "aroha" spirit with a feeling of "fanau" (family) in this school. _____

46. Teacher-student interaction is positive and respectful. _____

47. Teachers enjoy teaching Pasifika students at this school. _____

48. Disciplinary problems are handled with fairness, emphasising behaviour, not personality. _____

49. Classroom environments stimulate learning for Pasifika students without undue pressure. _____

50. The school staff works cooperatively together to ensure the academic success of Pasifika students. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 (see below). By school leaders, we mean the management team – Principal, DP etc.

1 = Never
2 = Rarely
3 = Sometimes
4 = Most of the time
5 = Always

Positive Home-School Relations

51. Regular, frequent home-school communications are maintained. _____

52. Pasifika parents often receive information about students' progress. _____

53. Our school events are scheduled to encourage Pasifika parents' attendance. _____

54. Our school and staff welcome Pasifika parents at this school. _____

55. Parents of Pasifika students are involved in major decisions about their children. _____

56. School staff encourages parents to become involved in activities that support the school's instructional program. _____

57. Pasifika parents are offered various options for involvement, e.g., Board of Trustees, tutoring their children at home, joining school councils. _____

58. The school staff is responsive to Pasifika parent inquiries. _____

59. The school staff continually looks for ways to involve Pasifika parents, Pasifika students, and Pasifika communities in decision making. _____

60. Teachers let Pasifika parents know that parent involvement makes a difference in their children's school performance. _____

THANK YOU FOR PARTICIPATING IN THIS SURVEY. If you wish to add any comments please do so in the space provided below:

Appendix G Schooling Improvement (Pasifika) Secondary School Leadership Survey

SCHOOLING IMPROVEMENT (PASIFIKA) LEADERSHIP SURVEY

The purpose of the Schooling Improvement (Pasifika) Leadership Survey is to gauge your professional view on the provision and implementation of activities for Pasifika students in your school. This in turn will provide us with a better understanding of the procedures that currently exist within your school and the cluster and it will enable us to provide more appropriate feedback to schooling improvement on Pasifika student and their learning.

This survey consists of six sections and it will take approximately 30 – 40 minutes to complete. Your time and professional input is greatly appreciated.

Principal Investigator
Dr Meaola Amituanai-Toloa

Name: _____

School: _____

Position in school (please circle more than one, if appropriate):

□ Principal □ DP □ A@W Literacy Leader □ A@W Numeracy Leader □ Teacher

□ Dean/House Leader □ HoD/HoF subject: _____

Your ethnicity: _____ **Gender: _____**

Age bracket (please circle): 30 or under
31-40
41-50
51-60
over 60

Year level/s: _____

Subject Specialism(s): _____

Qualifications: (e.g. Certificate in teaching, Diploma in teaching, BEd, BA (English) etc)

Please list in full:

_____

_____

_____

Institution & country trained:

_____

Number of years you have been teaching: _____

Length of time in present school: _____

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 in each box. By school leaders, we mean the management team – Principal, DP, Literacy Leaders etc.

Never	Rarely	Sometimes	Most of the time	Always
1	2	3	4	5

Strong Instructional Leadership of the Principal/ School leaders

1. The principal makes Pasifika student achievement one of the school's top goals. _____

2. The stated goal/s and mission for Pasifika academic achievement is clear and in concrete terms. _____

3. The principal ensures that the learning needs of Pasifika students are met. _____

4. School leaders, in developing the school's Pasifika improvement plan, work with teachers, Pasifika students and their parents. _____

5. There is ongoing two-way communication between the school leaders and school personnel about ways forward for Pasifika achievement. _____

6. The school leaders regularly observe classroom instruction. _____

7. The school leaders regularly provide feedback to teachers of Pasifika students with regard to their classroom instruction. _____

8. School leaders and staff share in leadership roles, using individual and team strengths to build up Pasifika academic achievement. _____

9. The principal makes sure there are sufficient resources available for teachers of Pasifika students for effective instruction. _____

10. The principal ensures that there is an effective, ongoing system for evaluating the school's progress toward its Pasifika achievement mission and goal/s. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 in each box. By school leaders, we mean the management team – Principal, DP, Literacy Leaders etc.

Never	Rarely	Sometimes	Most of the time	Always
1	2	3	4	5

Strong emphasis on academics

11. Class time is used effectively for instruction. _____

12. Teachers present classroom content and activities in ways that are relevant and interesting to Pasifika students. _____

13. Instruction is geared to having Pasifika students actively involved in learning. _____

14. Pasifika students are given enough time to master the basic skills. _____

15. Pasifika students who need extra help get it. _____

16. Teachers maximise Pasifika student time-on-task. _____

17. Teachers continually assess the effects of their instruction on Pasifika academic achievement and modify their teaching. _____

18. Teachers collaborate to develop/refine the academic curriculum to be inclusive and culturally responsive to Pasifika students. _____

19. Teachers use approaches such as cooperative learning, peer tutoring, and computer-assisted instruction to promote learning success for Pasifika students in the school. _____

20. Teachers participate in professional development activities to keep up-to-date on instructional practices pertinent to Pasifika achievement. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 in each box. By school leaders, we mean the management team – Principal, DP, Literacy Leaders etc.

Never	Rarely	Sometimes	Most of the time	Always
1	2	3	4	5

High Expectations for Pasifika Student Achievement

21. All Pasifika students are expected to learn a full range of skills—from basic memorisation to complex problem solving. _____

22. Teachers believe that all Pasifika students can master the basic skills in literacy and numeracy. _____

23. Teachers clearly inform Pasifika students and their parents of what students are expected to know and be able to do by the end of the unit or term. _____

24. School standards are both challenging and attainable for Pasifika students. _____

25. All staff have high expectations for Pasifika student achievement. _____

26. All staff believe that Pasifika students can learn regardless of their ability. _____

27. All teachers assume responsibility for Pasifika student learning. _____

28. Pasifika students are encouraged and shown to set high learning goals for themselves. _____

29. Teachers foster the development of independent learning for Pasifika students. _____

30. Time spent in withdrawal programmes e.g. ESOL, Learning Centre etc, is expected to be short and effective. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 in each box. By school leaders, we mean the management team – Principal, DP, Literacy Leaders etc.

Never	Rarely	Sometimes	Most of the time	Always
1	2	3	4	5

Frequent Monitoring of Student Progress

31. Teachers often give Pasifika students constructive feedback on their progress. _____

32. Teachers promptly evaluate and return homework. _____

33. Teachers diagnose academic problems early. _____

34. Teachers clearly explain their assessment criteria for achievement grade levels. _____

35. Teachers give clear instructions before assigning work or homework. _____

36. The school-wide behaviour management policy is consistently and effectively used for Pasifika students. _____

37. Pasifika students are given an active role in assessing and evaluating their own progress. _____

38. Teachers use tests and other forms of assessment to evaluate Pasifika student learning. _____

39. Information from monitoring Pasifika students' progress is used to adapt instruction to meet individual student needs. _____

40. Results from Pasifika students' progress are used to plan weekly instruction. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 in each box. By school leaders, we mean the management team – Principal, DP, Literacy Leaders etc.

Never	Rarely	Sometimes	Most of the time	Always
1	2	3	4	5

Positive School Climate

41. The school is clean and comfortable. _____

42. People in the school and those that come into the school feel safe at this school. _____

43. The school staff really cares about Pasifika students. _____

44. Pasifika students in our school want to learn. _____

45. There is an "aroha" spirit with a feeling of "fanau" (family) in this school. _____

46. Teacher-student interaction is positive and respectful. _____

47. Teachers enjoy teaching Pasifika students at this school. _____

48. Disciplinary problems are handled with fairness, emphasising behaviour, not personality. _____

49. Classroom environments stimulate learning for Pasifika students without undue pressure. _____

50. The school staff works cooperatively together to ensure the academic success of Pasifika students. _____

PLEASE TURN TO THE NEXT PAGE

Please indicate the degree to which each of the following activities is **implemented for Pasifika students by the principal (or school leaders)** at this school by entering a number from 1-5 in each box. By school leaders, we mean the management team – Principal, DP, Literacy Leaders etc.

Never	Rarely	Sometimes	Most of the time	Always
1	2	3	4	5

Positive Home-School Relations

51. Regular, frequent home-school communications are maintained. _____

52. Pasifika parents often receive information about students' progress. _____

53. Our school events are scheduled to encourage Pasifika parents' attendance. _____

54. Our school and staff welcome Pasifika parents at this school. _____

55. Parents of Pasifika students are involved in major decisions about their children. _____

56. School staff encourages parents to become involved in activities that support the school's instructional program. _____

57. Pasifika parents are offered various options for involvement, e.g., Board of Trustees, tutoring their children at home, joining school councils. _____

58. The school staff is responsive to Pasifika parent inquiries. _____

59. The school staff continually looks for ways to involve Pasifika parents, Pasifika students, and Pasifika communities in decision making. _____

60. Teachers let Pasifika parents know that parent involvement makes a difference in their children's school performance. _____

THANK YOU FOR PARTICIPATING IN THIS SURVEY. If you wish to add any comments please do so in the space provided below:

_____

_____

_____

_____

Appendix H Schooling Improvement (Pasifika) Primary School Teacher Survey

Schooling Improvement (Pasifika) Teacher Survey

The purpose of this survey is to obtain your professional perspective on teaching actions that are effective and less effective and also instructional practice. This survey will assist us in understanding your pedagogical content knowledge (PCK) on effective and less effective teaching actions that will provide us with an understanding of teaching in AUSAD schools.

This survey consists of two sections and it will take approximately 30 – 40 minutes to complete. Your time and professional input is greatly appreciated.

Principal Investigator
Dr Meaola Amituanai-Toloa

Survey for Teachers

To be completed by AUSAD Cluster senior management team (i.e. Principals, DPs, APs & Lead Teachers) and teachers in the selected Focus Cluster schools.

Name: _____ School: _____

(**Note:** The information provided will be used without attribution. Information which identifies individuals or schools will not be released).

Age bracket (please circle): 30 or under
31-40
41-50
51-60
over 60

Qualifications: (e.g. Certificate in teaching, Diploma in teaching, BEd, BA (English) etc)
Please list in full:

_____

_____

_____

Institution & country trained: _____

Current position(s): _____

Subject Specialism(s): _____

Year level(s) you teach: _____

Years of teaching experience: _____

Years of teaching experience in THIS school: _____

SECTION ONE:

Here is a section taken from the middle part of a guided reading session in a year 5-6 class. Teacher sits with a group of 5 children

Text: "Squid Monster", By Jill Eggelton.

T: Okay from page ten there's a few new, we've found a few new words in this story as I've been reading so far haven't we? And there's a few new that we're gonna come across again today. One of the words that we're going to come across on this page and as you're looking for um I think it's a word that you're not going to know, and it means the same as um a number of things. It means the same as a number of things *[Teacher writes definition on whiteboard].* So as you come across that we're looking for a word that might mean this, 'a number of things'. What do you think it is already?

C: That 'm' word *[Child indicates in text].*

T: Okay it could be that 'm' word. We'll have a look and see. I'd like um you all to read just that top paragraph. Brooke thinks it's going to be that 'm' word and so if you could just read that now please.

C: *[Children read silently].*

T: You think you've found it Trei? If you think you've found it put your finger on the word in the text. Can you see if you've got the same word as the person beside you there Alice? What did you come up with Trei?

C: Um 'myriads' *[Child mispronounces word].*

T: You think it's 'myriads' *[Teacher mispronounces word as child did]* anybody, very close. That is the word we're looking for. It's not quite how we pronounce it. Who thinks they could have a go at how we might pronounce this word? *[Teacher writes word 'myriads' on whiteboard].* What do you think Alice?

C: Myriad *[Child mispronounces word].*

T: Very close. One more try? *[Teacher looks to particular child to answer].*

C: Myriad *[Child mispronounces word].*

T: Very close. The word is 'myriad'. Have a go at saying that word.

C: *[Children all say word…]* Myriad.

T: Who thinks they've seen that word somewhere else before? You've seen it? You haven't seen it? Right how did you know what it meant then? If you've never seen it word, how did you know what that word meant?

C: *[One child says…]* Well it gave us sort of a clue there because a great number.

T: A great number? Okay so it'd given you a clue. Have a look, this is what it is here *[Teacher has sentence written* out *on sheet hanging on whiteboard].* Could you read that out to us um Kendall?

C: <u>It would be easy to get lost in the</u> something <u>of tunnels.</u>

T: And what's the word that the author's *decide* to use? Yes? *[Teacher looks to child with hand raised].*

C: Myriad.

T: Myriad, myriad. <u>In the myriad of tunnels.</u> What other word could the author have decided to use there if we know that it means a number of things? Have a guess with the people around you. Take a…what do you think are some other words that he could have used instead of that word. What was that one Jarrod?

C: Lots.

T: Lots *[Teacher adds word to sheet].* He could have said 'lots'. What else could he have said? What would be another word for 'myriad' or a number of things?

C: *[One child says…]* Black.

T: In the 'black' tunnels? Does that mean the same 'a number of things'? I've got a number of ice blocks. Does that mean the same? I have black ice blocks? *[Teacher smiles].*

C: No.

T: No that one doesn't does it? It's going to be a challenge for you guys later to come up with some other words for 'in a number of tunnels'. You might have to take some of these words out around it, but you guys are gonna when you've finished here you're gonna go and find a lot of other words a lot of other words for the word 'myriad'. Right let's carry on to the next paragraph please. In the next paragraph, as you're reading through, um the author paints a picture in our mind to let us know how they're diving through the water. I want you to search for that piece that tells us how he's moving through the water, how Thomas is.

Questions

1: List up to 3 aspects of the teacher's instruction you think are good practice for the goals of guided reading at this level (generally to discuss language, meanings, and ideas in a range of texts, relating their understanding to personal experiences and other texts).

1a: _____

1b: _____

1c: _____

2: List up to 3 things you would have done differently and explain why.

2a: _____

2b: _____

2c: _____

SECTION TWO:

At the weekend, Tracey, a beginning teacher from Riverdale School, brought her reading test results to you with some questions. She wanted to find out more about what the results showed. Below are those results for Tracey's class, Room 10. Tracey wanted to know what you think about Room 10's paragraph comprehension as she thought it a bit on the low side. Given the results for reading, what should she do?
The following presents the raw scores of the 27 students in the class, the class mean and the national norms in the STAR manual (mean, range, typical rand and critical score). *Note: The means provided for sub-tests total to the mid point of stanine 5 in Sept-Dec, i.e 37.5). A critical score is a low score that is a cause for concern. Children who score 14 and below on the total score are considered to be non-readers.

Subtest 1: Raw Scores Word Recognition
10 8 8 10 9 10 9 5 10
8 9 8 9 9 10 7 10 9
10 9 9 9 9 9 10 8 4
class mean= 8.7
NZ mean 9.1
range 4-10
typical range 9-10
critical score 7

Subtest 2: Raw Scores Sentence Comprehension
7 8 8 9 8 4 5 9 8
8 6 8 5 9 3 8 6 7
9 7 8 8 7 4 8 7 9
class mean= 7.1
NZ mean 7.9
range 3-9
typical range 8-9
critical score 5

Subtest 3: Raw Scores Paragraph Comprehension
12 5 7 16 10 4 9 3 13
6 14 12 15 11 12 14 10 8
12 11 13 14 9 7 12 5 10
class mean= 10.1
NZ mean 13.9
range 3-16
typical range 11-17
critical score 7

Subtest 4: Raw Scores Vocabulary Range
4 4 6 3 6 4 5 6 5
8 4 3 3 7 5 6 5 3
9 7 4 8 5 5 4 6 5
class mean 5.2
NZ mean 6.7
range 3-9
typical range 6-8
critical score 4

Raw Scores Total Score

33 25 29 38 33 22 28 23 36
30 33 31 32 36 30 35 31 27
40 34 34 39 30 25 34 26 28
class mean 31.2
NZ mean 34 (mid point of stanine 5 in Feb-May)*
range 22- 40
typical range 30-37
critical score 14

Please respond to Tracey's enquiries:

1: What would you tell Tracey about what the paragraph comprehension results mean?

_____

_____

_____

2. What other information from the results would you point out to Tracey?

_____

_____

_____

3: What other information would you suggest Tracey needs in order to help make decisions about teaching comprehension?

_____

_____

_____

4: What do you suggest that Tracey should do with the results?

_____

_____

_____

Thank you for your time and the thought you have put into responding. If you wish to add further comments please do so in the space provided below:

_____

_____

_____

_____

Appendix I Schooling Improvement (Pasifika) Secondary School Teacher Survey

Schooling Improvement (Pasifika) Teacher Survey

The purpose of this survey is to obtain your professional perspective on teaching approaches that are effective and less effective. This survey will assist us in understanding your pedagogical content knowledge (PCK) on effective and less effective teaching approaches and that will provide us with an understanding of teaching in Waitakere schools.

This survey consists of three sections and it will take approximately 30 – 40 minutes to complete. Your time and professional input is greatly appreciated.

Principal Investigator
Dr Meaola Amituanai-Toloa

Survey for Teachers

To be completed by A@W Cluster senior management team (i.e. Principals, DPs, Literacy Leaders, Deans, HoDs and HoFs) and Year 9 & 10 English teachers in the selected Focus Cluster schools.

Name: _____ School: _____

(**Note:** The information provided will be used without attribution. Information which identifies individuals or schools will not be released).

Age bracket (please circle): 30 or under
31-40
41-50
51-60
over 60

Qualifications: (e.g. Certificate in teaching, Diploma in teaching, BEd, BA (English) etc)

Please list in full: _____

_____

_____

Institution & country trained: _____

Current position(s): _____

Subject Specialism(s): _____

Year level(s) you teach: _____

Years of teaching experience: _____

Years of teaching experience in THIS school: _____

SECTION ONE:

The following is a description of a teacher's instruction during a reading session with a group of Year 10 pupils. After reading through the description, you will be asked to identify and explain two effective and two less-effective teaching approaches.

The teacher wants students to read a page from a science textbook. The aim of the lesson is to help students understand the process of photosynthesis and develop skills in reading from a scientific text. The text is to do with the process of photosynthesis and the page includes a passage about the process of photosynthesis; several photographs; a diagram; and a table.

The teacher points to various pot plants she has in her classroom and asks groups to discuss what kinds of things plants need in order to grow. She then asks them to brainstorm as many words beginning with the prefix 'photo' as possible. She then hands the text out to the class and has individual students read out brief sections aloud to the class. Some of the students find it hard to pronounce some of the words correctly, but she chooses not to correct them in front of the class for fear of embarrassing them. After they have finished reading the students are given a cloze exercise to complete. One part of the cloze asks them to fill in the missing words in this sentence: "Plants are green because of a substance called …….... The gas that plants produce is called …… The gas that animals produce is called …….". Students finish the lesson by copying out a diagram from the book and colouring it in.

Identify two effective actions (what the teacher does or says) and two less effective ones.
Briefly note why you think they are effective and suggest improvement(s) for less effective moves.

1a: Effective teaching action: _____

1b: Reason why effective: _____

_____

_____

2a: Effective teaching action: _____

2b: Reason why effective: _____

_____

_____

3a: Less effective teaching action _____

3b: Suggested improvement: _____

_____

_____

4a: Less effective teaching action _____

4b: Suggested improvement: _____

_____

_____

6. Describe one additional thing the teacher could have done before students read aloud to the class:

_____

_____

SECTION TWO:

Tracey's class has recently completed an asTTle reading assessment. Results indicate that many students have 'gaps' in the curriculum functions of 'finding information' and 'inference'.

1. Describe two teaching approaches that would develop students' skills in 'finding information' and explain why each approach would be effective.

a. Teaching approach:

_____

_____

Why effective:

_____

_____

b. Teaching approach:

_____

_____

Why effective:

_____

_____

2. Describe two teaching approaches that would develop students' skills in 'inference' and explain why each approach would be effective.

a. Teaching approach:

_____

_____

Why effective:

_____

_____

b. Teaching approach:

_____

_____

Why effective:

_____

_____

SECTION THREE:

Imagine that you are setting a writing task for Year 11 students in your main teaching subject. It is a task that students are likely to find challenging. Describe four teaching approaches you would use to support students to successfully complete this writing task, and explain why each would be effective.

1. Teaching approach:

   _____

   _____

   Why effective:

   _____

   _____

2. Teaching approach:

   _____

   _____

   Why effective:

   _____

   _____

3. Teaching approach:

   _____

   _____

   Why effective:

   _____

   _____

4. Teaching approach:

   _____

   _____

   Why effective:

   _____

   _____

Thank you for your time and the thought you have put into responding. If you wish to add further comments please do so in the space provided below:

Appendix J Student Language Survey

PASIFIKA SCHOOLING IMPROVEMENT PROJECT

STUDENT LANGUAGE QUESTIONS

LAST NAME: _____

FIRST NAME: _____

SCHOOL: _____

CLASS: _____

YEAR: _____

1: What ethnicity/ethnicities do you belong to?

2: What is the first language that you learned?

3: What language do you speak most at home?

4: Which Country were you born in?

5: If you were not born in NZ, how long have you been in NZ?

6: Which country or countries were your parents born in?

Appendix K Classroom Observation Sheet

Classroom Observation:
Session 1 or 2 Date:

School: _____ **Teacher:** _____
Classroom: _____ **Year Level:** _____
Date: _____ **Class Size:** _____
Duration: _____

A. Classroom features

1. How 'rich' is the environment in the classroom?

(1) Low

(2) Medium

(3) High

2. How smoothly structured / organised is the literacy / numeracy session?

(1) Low

(2) Medium

(3) High

3. How differentiated is the session?

(1) Low

(2) Medium

(3) High

4. How appropriate are the expectations expressed in teacher talk / assignment of tasks?

(1) Low

(2) Medium

(3) High

TOTAL:

B. Instructional dimensions

3 minutes on each dimension	Lesson A Group S / L Phase	Lesson B Group S / L Phase
Higher level talk focus	**(1) Low** **(2) Medium** **(3) High**	**(1) Low** **(2) Medium** **(3) High**
Core knowledge focus	**(1) Low** **(2) Medium** **(3) High**	**(1) Low** **(2) Medium** **(3) High**
Strategy focus	**(1) Low** **(2) Medium** **(3) High**	**(1) Low** **(2) Medium** **(3) High**
Vocabulary focus	**(1) Low** **(2) Medium** **(3) High**	**(1) Low** **(2) Medium** **(3) High**
Feedback focus	**(1) Low** **(2) Medium** **(3) High**	**(1) Low** **(2) Medium** **(3) High**
TOTALS:		

S=small group, L=Large group; Phase = part of the lesson / approach (e.g. instructional writing)

Notes:
Consistency of the focus of the instruction in terms of the overall Schooling Improvement aim?

C. Cultural responsiveness

Incorporation **notes:**	**(1) Low** **(2) Medium** **(3) High**
Relationships **notes:**	**(1) Low** **(2) Medium** **(3) High**

D. Estimated actual time engaged in extended task

Estimated time	Less than 10 mins	10 – 20 mins	More than 20 mins
	1	2	3

E. Description of phases of lesson

Phase description	Estimated duration
1	
2	
3	
4	

Appendix L Classroom Observation Codes

Classroom Observation: Codes

Start observations when the class has begun first task / first topic – if there is a non interactive task such as watching a video or hearing a book start from when the instruction starts. . Finish when the session ends. Describe *phases* in the lesson (e.g. orientation, shared reading, guided reading, review)

A. Classroom features
Make ratings at end of session.

1. How 'rich' is the environment in the classroom? Rating 1-2-3

1. low richness (few artifacts: <3 large relevant diagrams/pictures/charts; no student work /assessments OR 3+ BUT repetitive and do not represent quality performance)
2. medium richness (several artifacts <10 diagrams/ pictures/charts; <3 examples of relevant student work/assessments; artifacts represent quality performance and are varied)
3. high richness (many artifacts 10+ diagrams/ pictures/charts; 3+ examples of relevant student work/assessments; artifacts represent quality performance and are varied)

2. How smoothly structured / organised is the session? Rating 1-2-3

1 low structure: No timetables, activity description, intentions apparent and students appear confused or dependent on teacher direction (as indicated by constant reminding, reprimanding; high rates of teacher control)
2 medium structure: general timetable, some information about timetable and lesson sequences, general intentions apparent (like "think")
3 high structure: Clear instructions or understanding of instructions which students follow with little confusion/good routines (litmus test is independent activities – do students know what they are meant to be doing and are engaged)

3. How differentiated is the session? Rating 1-2-3
(check via debrief with teacher)
1 low differentiation: activities and resources are not appropriately adjusted to students' level either within groups or across groups (could be too difficult, too easy; not differentiated) seen in teacher talk, deliberate acts of teaching and text or task difficulty level
2 medium differentiation: some differentiation in texts or tasks at a general level with few examples of specific adaptations for individuals within or across activities
3 high differentiation: texts and tasks are well matched with known student levels

4. How appropriate are the expectations expressed in teacher talk / assignment of tasks?
(check via debrief with teacher)
Rating 1-2-3
1. Inappropriate: either clearly too high, too low
2. Moderate: talk, tasks and texts convey moderate level of expectation
3. Highly appropriate expectations: teacher talk expresses high expectations and beliefs about student capability appropriate to the tasks and texts for known student levels

B. Instructional dimensions

Observe ***The Teacher***, rating the focus of **teaching and learning** for each dimension in turn ***over 3 minutes*** . Go through the sequence twice. If the lesson has several distinct parts such as general introduction, shared reading and then guided reading start the sequence with the first instructional phase (e.g. shared reading) and observe that for 15 minutes and then start a second sequence when the next instructional phase starts (e.g. guided reading). In each 3 minute sample look for the rating which best represents the overall quality. Note the grouping (small or large) and the type of phase (e.g. shared reading, problem solving). Focus entails a judgment of **student engagement** using cues for attending, thinking and participating,

High level talk appropriate to domain. Talk between teachers and students which elaborates and extends ideas and in the process therefore contributes to developing elaborated understanding). **High focus** must be topic related and involve contingent elaborations by teacher with Hi student engagement	**Low focus**: exchanges are primarily IREs / closed questions/ lecture (=1) **Medium Focus**: mixture of low focus, some extended exchanges but teacher dominated (=2) **High Focus**: exchanges develop into extended or elaborated (=3)
Core knowledge focus Appropriate for the domain AND level (e.g. in beginning reading-CAP, letters, phonological knowledge; in reading comp. content for reading or basic ideas such as 'main ideas"; in writing…**Hi Focus** can occur where there is little interaction but practice with, immersion in core content area occurs (e.g. use of appropriate text selected for: being read to / seeing a video; or demonstration of solving or preparing a writing piece for publishing). With Hi student engagement.	**Low focus**: busy work on work sheets, limited engagement in content/ knowledge areas central to task (=1) **Medium focus**: some relevant as well as largely busy work (=2) **High focus**: Critical knowledge/ content for the level and the domain (reading, writing, numeracy etc..) (=3)
Strategy focus. Appropriate for the domain AND level, will have a critical emphasis on non formulaic use: either in the task / text or related to the task/text. Instruction involves prompting /guiding/ commenting on in a meaningful task. **Hi Focus** can occur where there are few or no explicit references to strategies but these occur by students, and teacher guides/comments/accepts. With Hi student engagement.	**Low focus**: repeated instructions out of context, formulaic, strategies used without checks, OR no evidence for use by students (=1) **Medium focus**: mixture of low and some focus / use related to context (=2) **Hi Focus**: strategies are prompted, guided or clearly embedded and supported (=3)
Vocabulary focus Can be explicit through elaboration of meaning /discussion in context / reference to dictionary. Can be subject / technical vocabulary that refers to the subject matter (such as main points or prediction in reading comprehension or algorithm or probability in mathematics) AND / OR low frequency / unfamiliar vocab . **High Focus** can occur with little explicit instruction- embedded or incidental definition or elaborations occur or where repeated use of new / complex words in interactions with Hi student engagement.	**Low focus**: no reference or embedded use of vocabulary, or solving new words OR extended IRE sequences (=1) **Medium focus**: explicit instruction or embedded use mixed with IRE sequences or low frequency (=2) **High focus**: vocabulary learning is deeply ingrained, students look for and enjoy, teachers use new or complex vocab. teachers identify/ elaborate (=3)
Feedback focus: feedback occurs which is more than affirmation, can contain information including what to do next / feed-forward**. High focus** can occur with acceptance (i.e. no overt statement) where it is apparent that the acceptance is informative in the context of high engagement and awareness by learner(s). With Hi student engagement.	**Low focus**: affirmation without adding guidance, information (=1) **Medium focus**: mixture of low and some informative feedback or repeated excessive use (=2) **High focus**: feedback which is informative used appropriately - contingently, when needed, (=3)

Notes: dimensions are not mutually exclusive

C. Cultural responsiveness: attributes

These are global judgments having observed the classroom. Across each of the instructional dimensions consider how much of a presence there was of these two attributes

Incorporation: use of individual students' cultural and linguistic resources including background and event knowledge as well as language uses and patterns of learning and teaching

(1) Low incorporation: few examples where background knowledge is either assumed or explicitly highlighted or activated or used in instruction. Language of the students is not used.

(2) Medium incorporation: some examples but may be too generalised across group or with low frequency.

(3) High incorporation: students personal backgrounds are recognised either explicitly or implicitly and used to better connect with students. Different cultural frames / event knowledge may be used by different teachers including previous shared texts (films, books, problems, joint experience).

Note examples while observing instructional dimensions

Positive relationships : respectful and reciprocal, clear appreciation of backgrounds and cultural identity, emotional well being a concern and high positive expectations

(1) **Low positive:** climate is one where little acknowledgement and limited verbal or non verbal communication of enjoyment, or respect or concern

(2) **Medium positive:** mixture of low acknowledge and some, might be differential (i.e. for some members of the class but not others)

(3) **Highly positive:** climate of high respect, reciprocity (learning from or enjoying student contributions), clear appreciation of backgrounds and cultural identity, emotional well being a concern and high positive expectations. May be larked by humour.

Note examples while observing instructional dimensions

OTHER NOTES

1. Estimated actual time by average student in extended reading (texts), writing (texts), problem solving (problems)- may be with teacher, with peers or independently.

estimate	Less than 10 mins	10 – 20 mins	More than 20 mins
	1	2	3

2. Notes on tasks changing over time (from session 1 to 2). Change in complexity, development of independence?

Appendix M Cluster A Data Modelling Mathematical Notations

'Gap difference' models

In mathematical notation, the model developed on the 'entire' dataset was:

$$y_{ij} = \beta_{oj} + \beta_{1jk} + \beta_{2jl} + \beta_{3jm} + \beta_{4jlm} + e_{ij} \qquad (1)$$

where:

β_{oj} is the 'overall intercept' for the j^{th} gap; β_{1jk} is the coefficient giving the mean difference of the effect of the k^{th} starting level, relative to the baseline starting level, at the j^{th} gap; β_{2jl} is the coefficient giving the mean difference of the effect of the l^{th} ethnicity, relative to the baseline ethnicity, at the j^{th} gap; β_{3jm} is the coefficient giving the mean difference of the effect of the m^{th} school, relative to the baseline school, at the j^{th} gap; β_{4jlm} is the coefficient giving the mean difference of the effect of the interaction between the l^{th} ethnic group and the m^{th} school at the j^{th} gap, relative to the baseline ethnicity and the baseline school; and e_{ij} is the random error of prediction for the i^{th} student at the j^{th} gap.

The indices *k*, *l*, and *m* all depend upon the index *i*. This dependence has been suppressed to simplify the notation and make it less cluttered. Note that we are assuming that the vectors $\mathbf{e}_i = (e_{i1}, e_{i2}, e_{i3})^{\mathrm{T}}$ are independent and identically distributed multivariate Gaussian with zero mean and some 3×3 covariance matrix with no pres-specified structure.

The mathematical notation for the 'gap difference' model on the 'genuinely complete cases' dataset was:

$$y_{ij} = \beta_{oj} + \beta_{1jk} + \beta_{2jl} + \beta_{3jm} + \beta_{4jlm} + e_{ij} \qquad (2)$$

where:

β_{oj} is the 'overall mean' for the j^{th} gap; β_{1jk} is the coefficient giving the mean difference of the effect of the k^{th} starting level, relative to the baseline starting level, at the j^{th} gap; β_{2jl} is the coefficient giving the mean difference of the effect of the l^{th} level of time lived in New Zealand, relative to the baseline ethnicity, at the j^{th} gap; β_{3jm} is the coefficient giving the mean difference of the effect of the m^{th} school, relative to the baseline school, at the j^{th} gap; β_{4jlm} is the coefficient giving the mean difference of the effect of the interaction between the l^{th} level of time lived in New Zealand and the m^{th} school, at the j^{th} gap, relative to the baseline level of time lived in New Zealand and the baseline school; and e_{ij} is the random error of prediction for the i^{th} student at the j^{th} gap.

Note that the indices, *k*, *l*, and *m* depended upon *i* as for Equation 1. The same distributional assumptions are made about the e_{ij} as were made for Equation 1.

Static models

In mathematical notation, the static model that included school as a fixed effect took the form of:

$$y_i = \beta_o + \beta_{1j} + \beta_{2k} + \beta_{3l} + \beta_{4m} + e_i \qquad (3)$$

where:

β_o is the 'overall intercept'; β_{1j} is the coefficient giving the mean difference of the effect of the j^{th} language used at home group relative to the baseline language used at home group, β_{2k} is the coefficient giving the mean difference of the effect of the k^{th} level of gender, relative to the baseline level of gender; β_{3l} is the coefficient giving the mean difference of the effect of the l^{th} level of time lived in New Zealand, relative to the baseline level of time lived in New Zealand; β_{4m} is the coefficient giving the mean difference of the effect of the m^{th} school, relative to the baseline school; and e_i is the random error of prediction for the i^{th} student.

We are assuming that the e_i are independent identically distributed Gaussian random variables with mean zero and variance σ_e^2.

Lastly, the mathematical notation for the static model that included school as a random effect took the form of:

$$y_i = \beta_o + \beta_{1j} + \beta_{2k} + \beta_{3l} + S_m + e_i \qquad (4)$$

where:

β_o is the 'overall intercept'; β_{1j} is the coefficient giving the mean difference of the effect of the j^{th} language used at home group relative to the baseline language used at home group, β_{2k} is the coefficient giving the mean difference of the effect of the k^{th} level of gender, relative to the baseline level of gender; β_{3l} is the coefficient giving the mean difference of the effect of the l^{th} level of time lived in New Zealand, relative to the baseline level of time lived in New Zealand; S_m is a random variable giving the effect of the m^{th} school; and e_i is the random error of prediction for the i^{th} student.

We are assuming that the S_m are independent identically distributed Gaussian random variables with mean zero and variance σ_B^2, and that the S_m are independent of e_i.

Appendix N Schooling Improvement (Pasifika) Primary School Teacher Survey Coding

Reading PCK Coding – Primary School

Schooling Improvement (Pasifika) Teacher Survey

SECTION ONE:

Questions 1 a, b & c

0 = The response is either incorrect or irrelevant to the question.

1 = Identifies an aspect of teacher practice but with minimal rationale
Examples
- Discuss the meanings of new words.
- Students read paragraph by paragraph then discuss
- Teacher writes definition on the whiteboard

2 = Identifies and explains an aspect of teacher practice with moderate rationale
Examples:
- Students brainstorm alternatives for new words so they can ensure understanding of new vocabulary
- Teacher develops interest and motivation through positive feedback
- Teacher provides a 'starting point' for locating new vocabulary

3 = Identifies specific teaching aspects that can be identified as good practice and with detailed explanation
Examples:

- Extending their vocabulary by using synonyms helps build word knowledge and informs a strategy
- Deliberate focus on new or unfamiliar vocabulary occurred, with discussion around the meaning so that learning is enhanced and better retained
- With detailed guidance, content is used to solve new vocabulary so that the analysis of meaning is more informed.

Questions 2 a, b & c:

0 = The response is either incorrect or irrelevant to the question.

1 = Identifies what they would now do with little description and minimal rationale.
Examples:
- Don't use 'um' all the time
- Ask the class/student to re – pronounce the word if they have difficulty
- Break down the word(s) so students can learn fast

2 = Identifies in moderate detail what they would do now with some rationale included
Examples:

- Students identify their own challenging words which would cater for individual levels within the class
- Synonyms and antonyms – similar and opposite meanings would help develop meaning

- The events need sequencing to give students a good grasp of the story, thus helping comprehension

3 = Identifies and explains what they would do now with extensive rationale.
Examples:

- The text now needs to be reread with emphasis on fluency and phrasing to help build effective and automotive decoding
- A word familiarity test using the new vocabulary might be a good follow up activity to help develop vocabulary learning strategies
- After reading, write 'myriad' on the whiteboard and go back to discussing its meaning and how it is said. Have students use it in a new sentence, because writing and rehearsing meaning adds to acquisition, as does use in new contexts.

SECTIION TWO

Questions 1 & 2:

0 = The response is either incorrect or irrelevant to the question.

1 = The response identifies one general point from the results data but vague.
e.g.
5. That her class is below the mean.
6. Class is working slightly below average.

2 = The response identifies one or two correct statistical results from the data.
e.g.
5. Her class mean 10.1 while the national mean is 13.9 – her class is below the national mean for paragraph comprehension.
6. Vocabulary is also an area of concern. She should have a word bank in class. Give specific vocabulary enriching texts and use better vocabulary when speaking to her class.

3 = The response identifies and explains the mean(s), critical score and/or the range(s) of the results from data.
e.g.
5. She has a very wide range of comprehensions within the class with 7 students on a critical score. The rest of the students are sitting at an around average or higher. The lower marks have pulled the class mean down.
6. I would get her to ID who has critical scores in 2 or more sub-tests (to see whether other interventions etc could be utilised). I'd point out the critical scores for test 1 & 2 as well.

Questions 3 & 4:

0 = The response is either incorrect or irrelevant to the question.

1 = Provides suggestions that are correct but vague with minimal rationale.
e.g.
7. Check for common mistakes as most of these children are making (in all sections).
8. Use it to plan next reading lessons.

2 = Provides one or two suggestions with moderate rationale but requires further elaboration.
e.g.
7. Look for stanine improvements or going lower. Focus on vocabulary teaching/learning.
8. Compare with post-test and other classes in syndicate. Discuss with other teachers during discussion meeting. Use to group students.

3 = Provides two or more suggestions with extensive rationale.
e.g.
7. Pull apart subtests 3 and 4, list strategies needed in order to do these tests. These could be the focus for future planning.
8. Analyse the individual results to plan her lessons and what specific teaching strategies she needs to implement in her room.

Appendix O Schooling Improvement (Pasifika) Secondary School Teacher Survey Coding

Reading PCK Coding – Secondary School
Schooling Improvement (Pasifika) Teacher Survey

SECTION ONE:

Questions 1 & 2:

0 = The response is either incorrect or irrelevant to the question.
1 = Identifies an effective move that is vague with minimal rationale.
2 = Identifies an effective move but with moderate rationale that requires further elaboration.
3 = Identifies an effective move with an extensive rationale.

Questions 3 & 4:

0 = The response is either incorrect or irrelevant to the question.
1 = Identifies a less effective move that is vague with minimal rationale.
2 = Identifies a less effective move but with moderate rationale that requires further elaboration.
3 = Identifies a less effective move with a suggested improvement and an extensive rationale.

SECTION TWO:

Questions 1:

0 = The response is either incorrect or irrelevant to the question.
1 = Identifies an effective teaching approach for the goal of finding information in a year 9/10 class but the description is vague with minimal rationale
2 = Identifies an effective teaching approach for the goal of finding information in a year 9/10 class but with moderate rationale that requires further elaboration
3 = Identifies an effective teaching approach for the goal of finding information in a year 9/10 class with extensive rationale

Question 2:

0 = The response is either incorrect or irrelevant to the question.
1 = Identifies an effective teaching approach for the goal of inference in a year 9/10 class but the description is vague with minimal rationale
2 = Identifies an effective teaching approach for the goal of inference in a year 9/10 class but with moderate rationale that requires further elaboration
3 = Identifies an effective teaching approach for the goal of inference in a year 9/10 class with extensive rationale

SECTION THREE:

Questions 1 - 4:

0 = The response is either incorrect or irrelevant to the question.
1 = Identifies an effective teaching practice that is vague with minimal rationale.
2 = Identifies an effective teaching practice but with moderate rationale that requires further elaboration.
3 = Identifies an effective teaching practice with an extensive rationale.

EXAMPLES OF THE CODING:

SECTION ONE:

Questions 1 & 2:

0 = The response is either incorrect or irrelevant to the question.

1 = The response is correct but vague.
e.g.
1a: Effective move: asks students to brainstorm 'photo' words
1b: Reason why effective: Will help them to get the meaning of photosynthesis

2a: Effective move: Asking students what plants need in order to grow
2b: Reason why effective: Links into prior knowledge

2 = The response is good but could be elaborated further.
e.g.
1a: Effective move: asks students to brainstorm 'photo' words
1b: Reason why effective: Students will be able to work out that photo means light and therefore are more likely to retain the meaning of photosynthesis

2a: Effective move: Completing a cloze activity
2b: Reason why effective: Helps students sort new knowledge in a way that the teacher can also check to see if there is understanding

3 = The response is specific and cannot be further elaborated on.
e.g.
1a: Effective move: Activates prior knowledge (about pot plants)
1b: Reason why effective: Students learn best when they use their current knowledge and understandings to add new learning by building on what they have.

2a: Effective move: Asking the students to brainstorm what they know about the prefix 'photo'.
2b: Reason why effective: Connecting to the students prior knowledge may help with their comprehension, help them to engage with the reading/text.

Questions 3 & 4:

0 = The response is either incorrect or irrelevant to the question.

1 = The response is correct but vague.
e.g.
3a: Less effective move: Copying out the diagram
3b: Suggested improvement: Label it instead
4a: Less effective move: Read out loud
4b: Suggested improvement: This may cause anxiety to the students.

2 = The response identifies a less effective move with a suggested improvement.
e.g.
3a. Less effective move; having students reading aloud
3b. Suggested improvement: Go over the pronunciation and meaning of new vocabulary before starting the reading

4a. Less effective move:
4b. Suggested improvement:

3 = The response identifies either a less effective move with a suggested Improvement and a rationale.
e.g.
3a. Less effective move: Not sharing learning intention with students
3b. Suggested improvement: Students need to be clear that the focus was on the process of photosynthesis in order to gain maximum benefit from the key verbs in the text.

4a. Less effective move:
4b. Suggested improvement:

S**ECTION TWO:**

Question 1:

0 = The response is either incorrect or irrelevant to the question.

1 = Identifies an effective teaching approach for the goal of finding information in a year 9/10 class but the description is vague with minimal rationale
- 1a. Teaching approach: skimming and scanning text
- 1a. Why effective: gives a framework/overview
- 1b. Teaching approach: introducing key words
- 1b. Why effective: students know what to look for in the text

2 = Identifies an effective teaching approach for the goal of finding information in a year 9/10 class but with moderate rationale that requires further elaboration e.g.
- 1a. Teaching approach: looking at title, pictures, captions, diagrams and tables
- 1a. Why effective: gives students an orientation to assist with predicting what they can expect to see
- 1b. Teaching approach;
- 1b. Why effective:

3 = Identifies an effective teaching approach for the goal of finding information in a year 9/10 class with extensive rationale e.g.
- 1a. Teaching approach:
- 1a. Why effective:
- 1b. Teaching approach;
- 1b. Why effective:

Question 2:

0 = The response is either incorrect or irrelevant to the question.

1 = Identifies an effective teaching approach for the goal of inference in a year 9/10 class but the description is vague with minimal rationale
- 1a. Teaching approach:
- 1a. Why effective:
- 1b. Teaching approach;
- 1b. Why effective:

2 = Identifies an effective teaching approach for the goal of inference in a year 9/10 class but with moderate rationale that requires further elaboration e.g.
- 1a. Teaching approach: Three level guides
- 1a. Why effective: Assists students to read on the lines, between the lines and beyond the lines to develop inferencing skills
- 1b. Teaching approach;
- 1b. Why effective:

3 = Identifies an effective teaching approach for the goal of inference in a year 9/10 class with extensive rationale e.g.
- 1a. Teaching approach: Cause and effect mapping
- 1a. Why effective: By focusing on the clues in the text, students can reveal why something happened and what the result was – leading to a conclusion
- 1b. Teaching approach;
- 1b. Why effective:

SECTION THREE

Question 1 - 4

0 = The response is either incorrect or irrelevant to the question.

1 = Identifies an effective teaching approach but the description is vague with minimal rationale e.g.
1a. Teaching approach: Brainstorm topic ideas
1b. Why effective: builds confidence by pooling ideas
2a. Teaching approach: Build a writing frame
2b. Why effective: Students are aware of the structure
3a. Teaching approach: Peer assessment checklist
3b. Why effective: Helps to have peers check to see if the writing is meeting requirements

2 = Identifies an effective teaching approach but with moderate rationale that requires further elaboration e.g.
1a.
1b.
2a. Teaching approach: Showing exemplars
2b. Why effective: Students have a model to follow and can see how to improve their own work
3a. Teaching approach:
3b. Why effective:

3 = Identifies an effective teaching approach for with extensive rationale e.g.
1a.
1b.
2a. Teaching approach:
2b. Why effective:
3a. Teaching approach:
3b. Why effective:

Appendix P Phase One - Analyses Results for Clusters with Weaker Evidence of Achievement

Cluster C

(Results must be interpreted with caution as the cluster was missing approximately 58.33% of its ethnicity data and the data was not missing at random (e.g., two schools had not sent in any ethnicity data)

Table 91 *Mean AsTTle Reading Scores, Standard Deviation, Gain in Scores and Number of Students Matched for Two Time Points by Ethnicity (Cluster C)*

Cohort	Ethnicity	N	Aug-2006		Aug-2007		Gain (2006 - 2007)	
			M	SD	M	SD	M	SD
Year 4 - 5								
	Norm	-	412	-	462	-	50	-
	Pasifika	71	362.39	76.03	395.73	79.23	33.34	63.73
	Non-Pasifika	37	371.41	93.38	411.30	107.47	39.89	62.04
	Overall[1]	126	344.79	103.25	399.83	91.94	55.04	86.57
Year 5 - 6								
	Norm	-	462	-	489	-	27	-
	Pasifika	33	403.39	60.43	453.18	46.75	49.79	49.11
	Non-Pasifika	32	406.75	74.53	467.59	65.15	60.84	55.28
	Overall	115	414.93	76.54	453.07	63.27	38.14	59.14
Year 6 - 7								
	Norm	-	489	-	508	-	19	-
	Pasifika	9	431.22	36.19	481.33	28.36	50.11	28.33
	Non-Pasifika	3	457.67	33.50	499.00	20.42	41.33	40.08
	Overall	29	410.90	69.24	472.41	43.09	61.52	46.77
Year 7 - 8								
	Norm	-	508	-	517	-	9	-
	Pasifika	73	463.84	53.43	530.95	70.60	67.11	59.78
	Non-Pasifika	29	468.97	56.13	538.41	77.47	69.45	56.52
	Overall	119	470.00	54.27	535.52	68.85	65.52	56.42

[1.] The number of overall students is not equivalent to the total sum of Pasifika and Non-Pasifika students due to missing ethnicity labels in the dataset.

Table 92 *Mean AsTTle Reading Scores, Standard Deviation, Gain in Scores and Number of Student Matched for Three Time Points by Ethnicity (Cluster C)*

		Aug-2006		Aug-2007		Feb-2008		Gain (2006 - 2007)		Gain (2007 - 2008)	
Ethnicity	N	M	SD	M	SD	M	SD	M	SD	M	SD
Norm	-	412	-	462	-	489	-	50		27	
Pasifika	54	355.59	81.13	398.3	72.64	423.57	66.5	42.7	54.89	25.28	63.13
Non-Pasifika	27	370	83.57	401.15	111.82	452.48	75.13	31.15	57.53	51.33	77.69
Overall[1]	82	360.91	81.35	400.05	86.72	433.26	69.94	39.13	55.41	33.21	68.86

[1.] The number of overall students is not equivalent to the total sum of Pasifika and Non-Pasifika students due to missing ethnicity labels in the dataset.

Cluster G

(Results must be interpreted with caution as the cluster did not match students i.e., it is impossible to tell whether any changes in achievement are gains which can be attributed to either students coming in and out of the schools in the cluster, or the testing time points being different in different years)

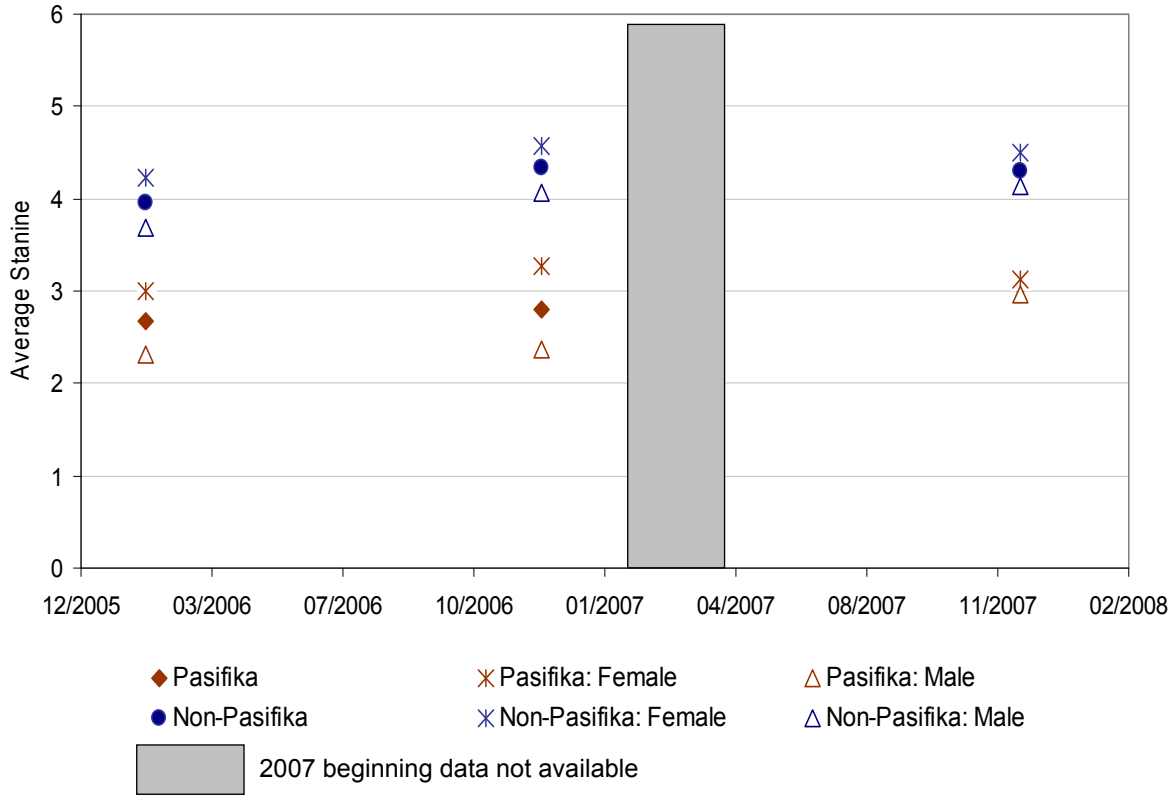
Table 93 *Mean Stanine, Standard Deviation and Number of Students by Ethnicity and Gender (Cluster G)*

Ethnicity Gender		Time 1 Beg. 2006	Time 2 End 2006	Time 3 End 2007	2006 - 2007 (Time 1 - Time 2)	
					t	ES
Pasifika						
Male	M	2.31	2.37	2.97	1.77	0.46
	SD	1.17	1.07	1.65		
	n	29	30	30		
Female	M	3	3.28	3.13	0.35	0.09
	SD	1.46	1.69	1.45		
	n	31	29	31		
Average	M	2.67	2.81	3.05	1.44	0.26
	SD	1.36	1.47	1.54		
	n	60	59	61		

Ethnicity Gender		Time 1 Beg. 2006	Time 2 End 2006	Time 3 End 2007	2006 - 2007 (Time 1 - Time 2) *t*		ES
Non-Pasifika							
Male	M	3.68	4.07	4.13	2.78	**	0.22
	SD	2.03	2.18	2.01			
	n	335	302	293			
Female	M	4.23	4.58	4.5	1.78		0.15
	SD	1.82	1.88	1.91			
	n	311	299	292			
Average	M	3.95	4.33	4.31	3.22	**	0.18
	SD	1.95	2.05	1.97			
	n	646	601	585			
Overall							
Male	M	3.57	3.92	4.02	2.93	**	0.22
	SD	2.01	2.16	2.01			
	n	364	332	323			
Female	M	4.12	4.47	4.37	1.73		0.13
	SD	1.82	1.89	1.91			
	n	342	328	323			
Average	M	3.84	4.19	4.2	3.38	**	0.18
	SD	1.94	2.05	1.97			
	n	706	660	646			

* $p < .05$, ** $p < .01$, *** $p < .001$.

***Figure 29*: Mean stanines by gender and ethnicity over 2004 - 2007 (Cluster G).**



Cluster H

***Figure 30*: Mean stanines by gender and ethnicity over two years (Cluster H).**

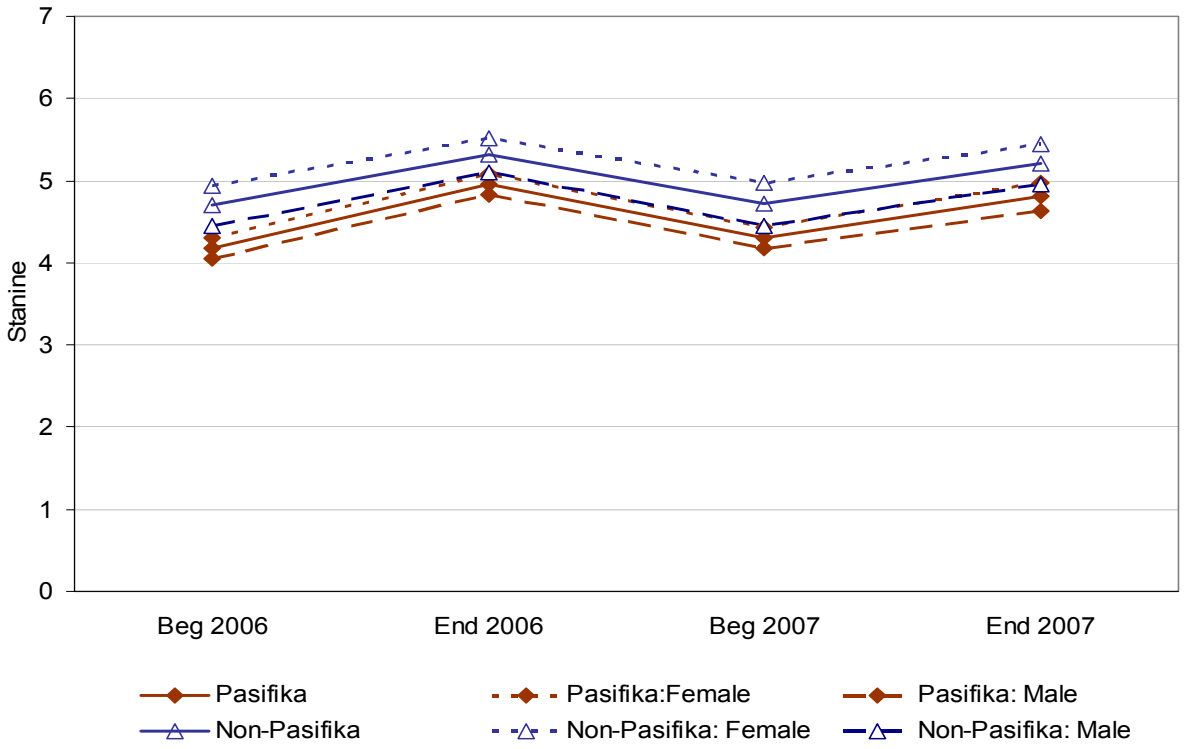


Table 94 *Mean Stanine, Standard Deviation and Number of Students by Ethnicity and Gender (Cluster H)*

Ethnicity Gender		Time 1 Beg. 2006	Time 2 End 2006	Time 3 Beg. 2007	Time 4 End 2007	2006 (Time 1 - Time 2)		Summer 2006 - 2007 (Time 2 - Time 3)		2007 (Time 3 - Time 4)	
						t	ES	*t*	ES	*t*	ES
Pasifika											
Male	M	4.05	4.83	4.18	4.64	7.15 ***	0.46	-6.83 ***	-0.38	5.08 ***	0.28
	SD	1.68	1.74	1.72	1.62						
	n	119	119	119	119						
Female	M	4.31	5.09	4.42	4.98	8.43 ***	0.08	-8.19 ***	-0.49	6.13 ***	0.42
	SD	1.48	1.41	1.35	1.33						
	n	123	123	123	123						
Average	M	4.18	4.96	4.31	4.81	11.01 ***	0.49	-10.59 ***	-0.42	7.93 ***	0.33
	SD	1.58	1.59	1.55	1.49						
	n	242	242	242	242						
Non-Pasifika											
Male	M	4.45	5.10	4.45	4.95	9.34 ***	0.36	-8.77 ***	-0.35	7.07 ***	0.26
	SD	1.81	1.79	1.89	1.94						
	n	211	211	211	211						
Female	M	4.94	5.52	4.98	5.45	8.91 ***	0.34	-7.73 ***	-0.32	7.87 ***	0.28
	SD	1.68	1.71	1.68	1.73						
	n	221	221	221	221						
Average	M	4.70	5.31	4.72	5.21	12.92 ***	0.35	-11.68 ***	-0.33	10.55 ***	0.27
	SD	1.76	1.76	1.80	1.85						
	n	432	432	432	432						
Overall											
Male	M	4.30	5.00	4.36	4.84	9.34 ***	0.39	-8.77 ***	-0.36	7.07 ***	0.26
	SD	1.77	1.78	1.83	1.84						
	n	330	330	330	330						
Female	M	4.72	5.36	4.78	5.28	8.91 ***	0.39	-7.73 ***	-0.36	7.87 ***	0.31
	SD	1.64	1.62	1.59	1.61						
	n	344	344	344	344						
Average	M	4.51	5.19	4.57	5.06	16.33 ***	0.40	-14.56 ***	-0.36	13.09 ***	0.28
	SD	1.72	1.71	1.72	1.74						
	n	674	674	674	674						

* p < .05, ** p < .01, *** p < .001.

Table 95 *Mean Stanine, Standard Deviation and Number of Students by Main Pasifika Ethnicities (Cluster H)*

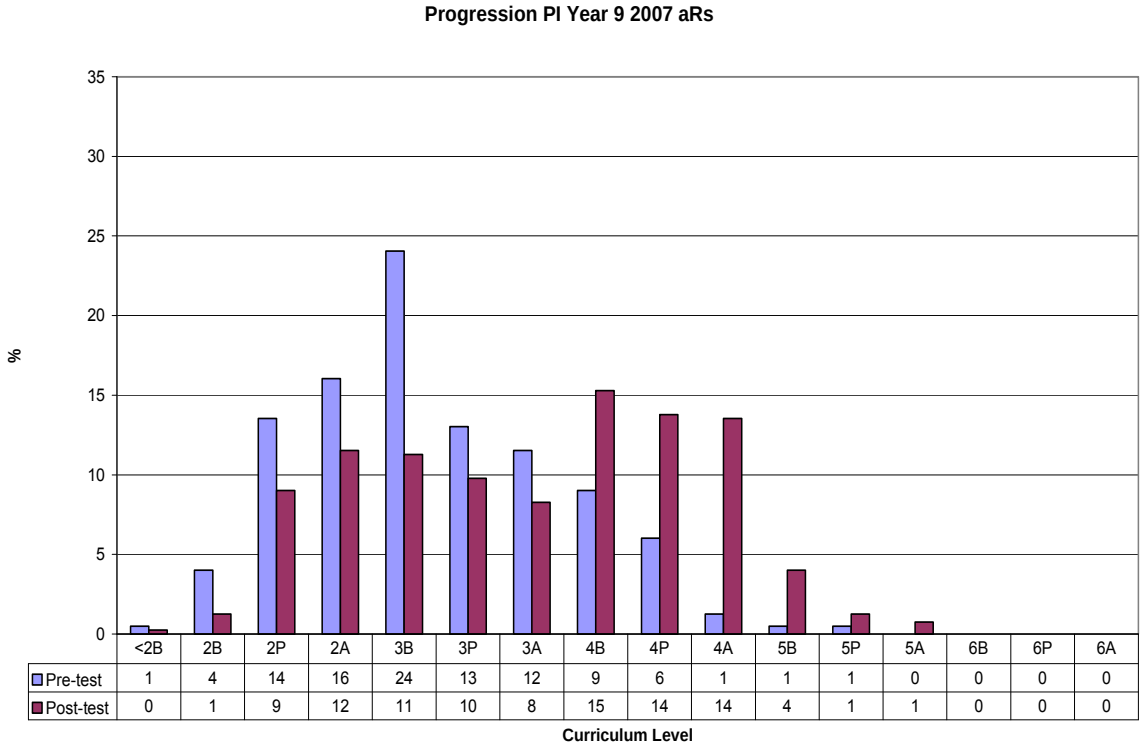
Ethnicity		Time 1 Beg. 2006	Time 2 End 2006	Time 3 Beg. 2007	Time 4 End 2007	2006 (Time 1 - Time 2)			Summer 2006 - 2007 (Time 2 - Time 3)			2007 (Time 3 - Time 4)		
						t		ES	*t*		ES	*t*		ES
Samoan														
	M	4.30	4.99	4.39	4.87	8.82	***	0.45	-7.93	***	-0.39	6.27	***	0.32
	SD	1.49	1.55	1.51	1.52									
	n	182	182	182	182									
Cook Island Maori														
	M	3.72	4.72	4.00	4.56	5.48	***	0.56	-3.27	**	-0.43	3.22	**	0.36
	SD	1.90	1.67	1.68	1.45									
	n	25	25	25	25									
Tokelauan														
	M	3.89	4.89	3.94	4.72	2.77	*	0.57	-3.80	**	-0.60	4.08	***	0.55
	SD	1.81	1.68	1.47	1.36									
	n	18	18	18	18									
Other Pasifika														
	M	3.94	5.06	4.24	4.65	4.37	***	0.63	-3.00	**	-0.46	1.33		0.26
	SD	1.71	1.85	1.75	1.41									
	n	17	17	17	17									
Māori														
	M	4.41	5.04	4.41	4.87	10.17	***	0.37	-9.60	***	-0.37	7.95	***	0.27
	SD	1.66	1.73	1.68	1.74									
	n	285	285	285	285									

* p < .05, ** p < .01, *** p < .001.

Cluster B

At the end of the year 2007 the NZ European student mean aRs was 637 with a gain of 69 aRs and equivalent to 4P, the Māori student mean aRs was 593 with a gain of 64 points and equivalent to 4B, and Pacific Island student mean aRs was 566 with a gain of 58 points and equivalent to 3A. Asian students had an average aRs of 607, level 4B and a gain of 66 points.

***Figure 31*: Cluster B asTTle reading scores for Year 9, 2007[17].**



	<2B	2B	2P	2A	3B	3P	3A	4B	4P	4A	5B	5P	5A	6B	6P	6A
Pre-test	1	4	14	16	24	13	12	9	6	1	1	1	0	0	0	0
Post-test	0	1	9	12	11	10	8	15	14	14	4	1	1	0	0	0

[17] Figure was taken from Cluster B's achievement report.