



Shine

The community coming together, realising the potential of young people of the Porirua basin.

THE PORIRUA
EDUCATION INITIATIVE



Language to Literacy: The *Shine* Literacy Project

A community initiative that is raising children's literacy achievement through the collaboration of schools in Porirua, Lower Hutt and North Wellington.



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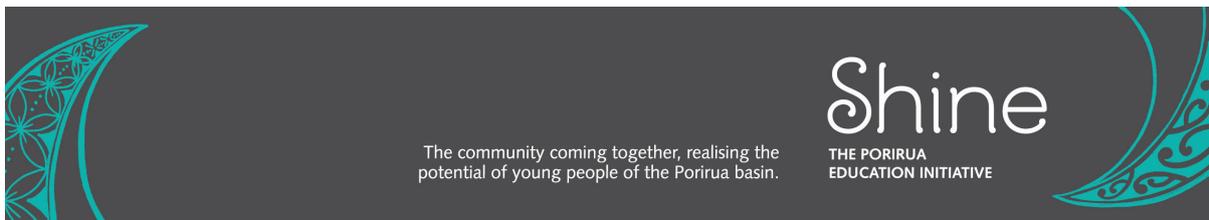
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Acknowledgements



Language to Literacy: the *Shine* Literacy Project

Introduction

The *Shine* Literacy Project was a response to the call for community-school partnerships made at the *Shine* Summit held in Porirua at the Te Rauparaha Arena in 2013. This Project focused on the foundations for writing and reading in the first years of schooling, evaluating the success of an approach to literacy instruction (*Sounds Like Fun*) designed to provide teachers with additional strategies to improve the literacy learning outcomes of New Entrant/Year 1 children. It is a community initiative supported by *Shine* and the Porirua Foundation who have helped raise the \$220,000 it cost to run. The project was designed and the data analysed by the Literacy Research Team from the Institute of Education at Massey University, led by Professor James Chapman; their time was donated as a community contribution.

This report describes the project, summarises the results, and outlines the plan for the next phase of learning and development of our ability to encourage early literacy success.

The Project

Why the project was undertaken

We have known for over 20 years that not all children gain success from initial literacy instruction. The difference in literacy learning outcomes between those who do well and those who do not is often referred to as 'the gap'. New Zealand has one of the largest gaps in literacy learning outcomes among developed countries. Children from low socioeconomic areas, Pasifika and Maori children and children who are English language learners are over-represented in the 'long tail' of underachievement. Typically what happens is that children who start school with less literacy knowledge make less progress than their more knowledgeable peers – the gap between the two groups widens over time. This is referred to as the 'Matthew effect': the rich get richer and the poor get poorer.

We know from a large amount of research in New Zealand and other countries that many children benefit from explicit instruction in the foundations of literacy development. In fact, research shows that virtually all children benefit from such explicit instruction, but it is especially important for children who for whatever reason, don't start school with foundational literacy skills in place. Research shows that teachers can help the large majority of these children by using explicit teaching strategies that integrate the teaching of essential skills and knowledge, such as those used in the *Sounds Like Fun* approach.

Research questions

This project set out to evaluate the effects of providing explicit, integrated instruction in the foundational literacy skills that are critical for writing and reading success.

These were the questions that led our research:

1. Did the *Sounds Like Fun* (SLF) approach result in better literacy learning outcomes for children in the Trial group compared to children in the Comparison group?
2. Did the SLF approach result in benefits in literacy learning outcomes for Maori and Pasifika children, and children from low decile schools?
3. Did the SLF approach result in benefits in literacy learning outcomes for ESOL children?
4. Which school entry variables best predicted literacy outcomes 18 months after school entry?

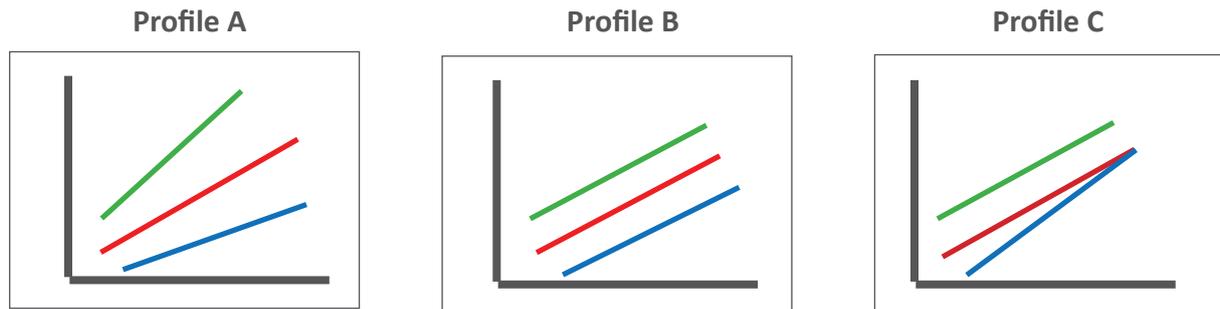
The *Sounds Like Fun* approach

The *Sounds Like Fun* instructional approach integrates all the essential literacy skills that research shows are critical for success, into 10 minute daily lessons which explicitly teach the foundations for literacy. We have provided professional learning seminars for teachers as well as classroom resources to make the teaching approach easy to implement.

Core elements of the *Sounds Like Fun* approach are:

- ◆ Teaching alphabetic code knowledge from sound to print – how to hear and record sounds.
- ◆ Using children’s own language as a basis for all instruction – teaching from what they know as they enter school (spoken language) to what they don’t know (written language).
- ◆ Integrating the teaching of vocabulary, phonological awareness, alphabetic code knowledge and reading and writing skills into short, daily lessons of explicit instruction.
- ◆ Teaching children how the alphabetic code really works – that letters are used to record sounds in lots of different ways – exposing children to the concept of diversity in the way the code works, from the outset (that /k/ can be a c in Cathy, k in Kyle, cc in Rocco, ck in Jack and ch in Christopher; that the letter a can be pronounced differently in words like apple, apron, about, was, water).
- ◆ Learning to write the alphabetic code as a platform for learning to read it.
- ◆ Using assessment data to track student progress and to tailor instruction to meet learning needs.

Generic achievement profiles



Children typically start school with different amounts of early literacy knowledge. The red line is the profile of an average child, the green line the profile of a child who knows more than the average child and the blue line the profile of a child who knows less.

Profile A shows children starting in different places and those who know more at school entry moving at a faster rate – the widening achievement gap or the ‘Matthew effect’.

Profile B shows children moving at the same rate as each other, regardless of what they knew at school entry.

Profile C shows children who started behind, closing the gap in achievement and beginning to catch up with their more knowledgeable peers.

Pilot Project

The approach being evaluated in the *Shine* Literacy Project was first trialled at Titahi Bay School between 2010 and 2012. On the basis of the results achieved (summarised in the table below), the literacy researchers at the Institute of Education, Massey University designed a larger, more robust study (*Shine* Literacy Project) which was approved by the Massey Ethics Committee in March 2013.

Percentage of Titahi Bay School students achieving at or above National Standards in 2012

	Writing	Reading
Year 3****	79%	91%
Year 4***	85%	89%
Year 5**	62%	71%
Year 6*	49%	60%

- **** Three years of using the *Sounds Like Fun* approach – in Years 1-3
- *** Two years of using the *Sounds Like Fun* approach – in Years 2 & 3
- ** One year of using the *Sounds Like Fun* approach – in Year 3
- * Did not use the *Sounds Like Fun* approach in junior school

Participants

The project began in May 2014 with 259 children from 32 schools. Seventeen schools trialled the *Sounds Like Fun* approach. To provide a way of comparing this approach, 15 schools continued with their usual instruction for 18 months after which time nine of those 15 schools began to use the *Sounds Like Fun* approach.

At the start of the project the sample size was 259 children; 112 (43.2%) were boys and 147 (56.8%) were girls. There were 138 students in the Trial group (71 Decile 9-10; 67 Decile 1-4) and 121 in the Comparison group (69 Decile 10; 52 Decile 1-3).

Students came from 28 different ethnic backgrounds. These have been grouped into: Pakeha (46.3%), Maori (21.2%), Pasifika (18.5%), Asian (11.6%), European (1.5%), Other (0.8%).

Procedure

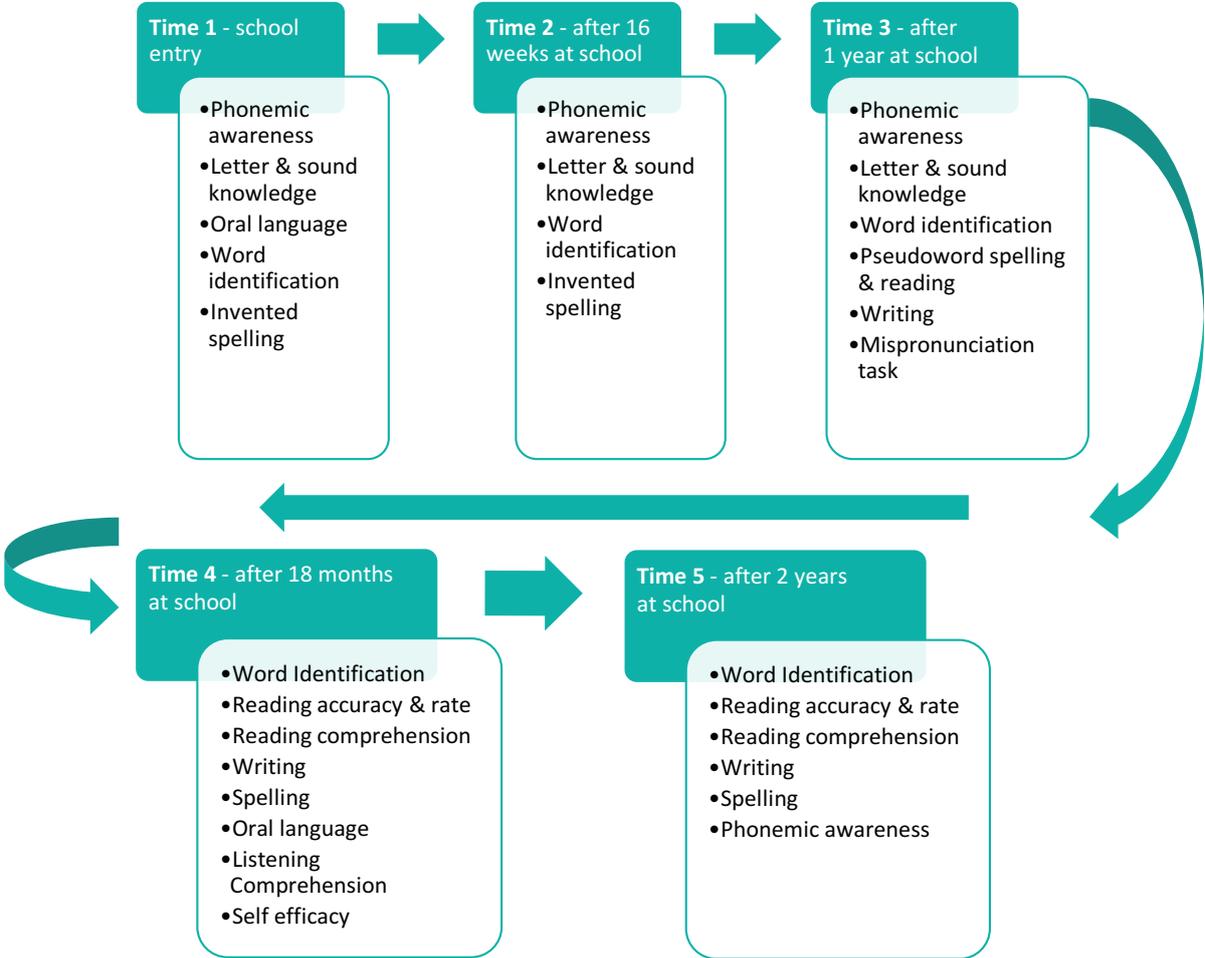
Children were tested at school entry – on average after being at school for 3 to 4 weeks (Time 1 – 259 children). They were retested on average after 16-17 weeks at school (Time 2 – 258 children), at the end of their first year on average 51 weeks after starting school (Time 3 – 244 children), after 18 months at school (Time 4 - 241 children) and after two years at school (Time 5 - 229 children).

We used a range of different assessments; some assessed the skills that research shows are important for initial literacy learning, and others assessed outcomes – reading, spelling, and writing skills.

At the end of the first year (Time 3) Comparison schools were offered the opportunity to pick up the *Sounds Like Fun* approach. Six of the nine low decile Comparison schools and three of the six high decile Comparison schools took up this offer. However, because of the fact that this project began during the year, most schools did not begin using *Sounds Like Fun* consistently until after 18 months at school (the start of 2016) – Time 4.

Assessments

Assessment Timeline



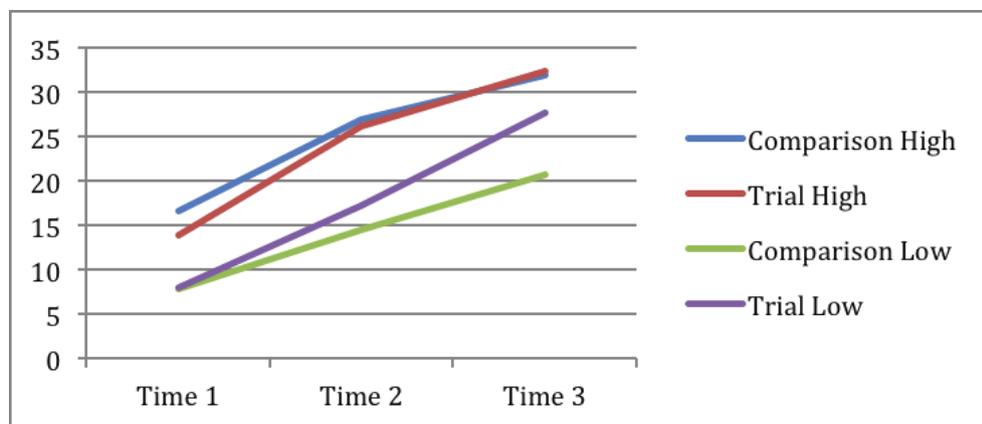
Results

The results that follow present some examples of the mean scores of assessments of the component skills for literacy, measured over the first year at school for various cohorts of children. They also show the reading outcomes for children after 18 months at school and after two years at school, comparing high and low decile groups in the Trial and Comparison schools. A subsequent report will discuss the distributions within and among the cohorts. Writing results will also be available in a subsequent report. Tables and tests of statistical significance are available on request.

These graphs present examples of the mean achievement scores for various assessments over the two years of the project.

Phonemic awareness skills

SPAT: Sutherland Phonological Awareness Test – by Decile Groups – First Year

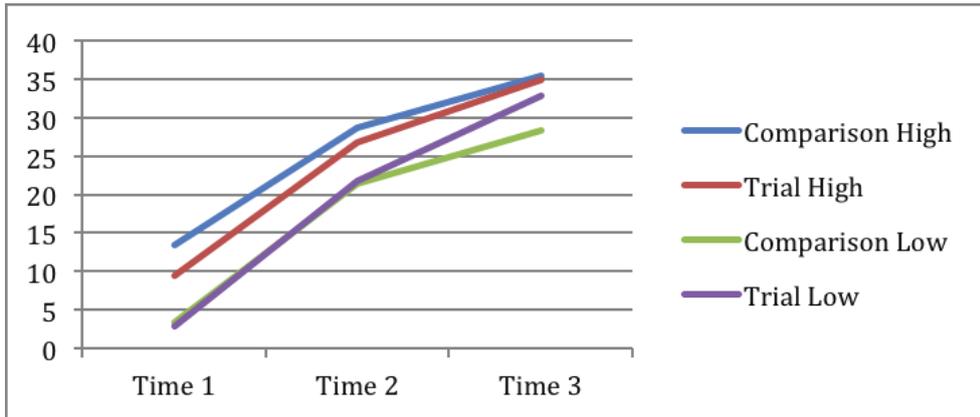


This graph shows the results of the high and low decile Trial and Comparison groups over the first year for the SPAT measure of phonological awareness.

The Trial group made significantly more progress with the SPAT tasks in the first year at school. The Trial low decile group is closing the gap with the high decile schools (a Profile C picture), and is doing significantly better than the low decile Comparison children at Time 3 (a Profile A picture).

Sound to Letter Knowledge

Sound to Letter /45 – by Decile Groups

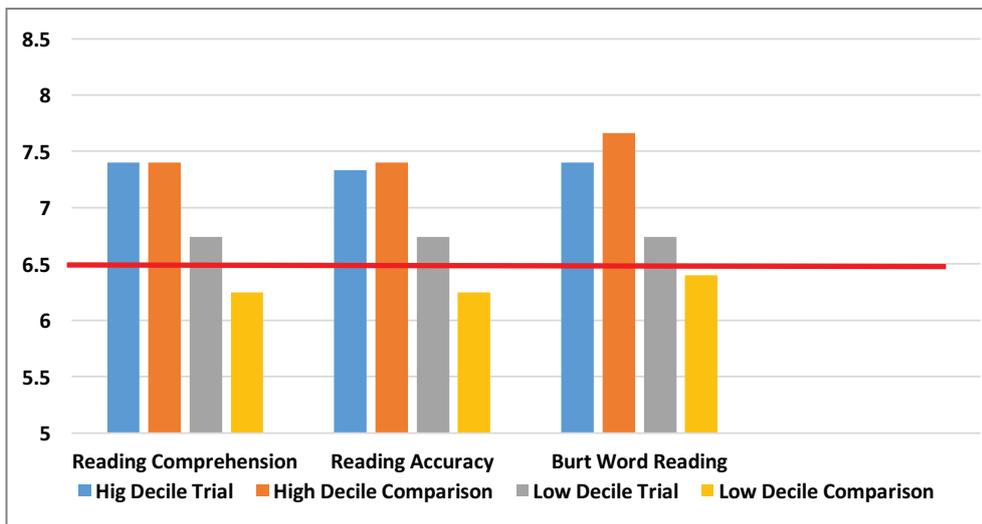


This assessment measured children’s ability to record the sounds of English at three points in the first year of school.

The high decile Trial group started out behind the high decile Comparison group, but have effectively caught up at Time 3. The low decile Trial group was slightly behind the low decile Comparison group at Time 1, but out-performed the Comparison group at Time 3, and had effectively caught up with the high decile groups.

Reading – after 18 months at school

Reading Skills at Years 6 Years 6 Months

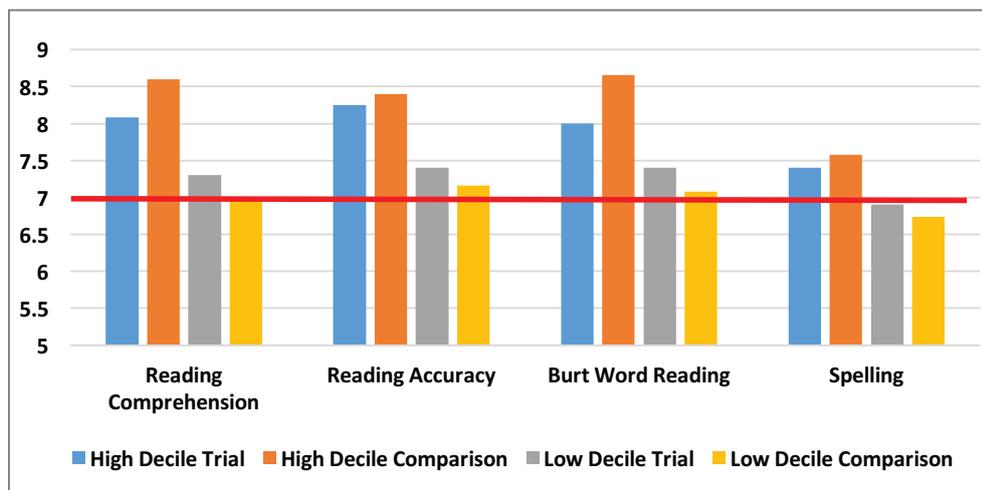


- ◆ The average student in both high decile groups achieved results that were approximately one year or more above their chronological age.
- ◆ The differences between results for the two low decile groups were significant for Reading Accuracy, Comprehension and Burt with the Trial group achieving higher results.
- ◆ The average student in the low decile Trial schools achieved results that were between three and five months above their chronological age for these three reading measures.
- ◆ The average student in the Comparison group was at, or up to three months below their chronological age for these measures.

Reading – after two years at school

Towards the end of 2015 nine of the 15 Comparison schools decided to take up the *Sounds Like Fun* approach. 34 of 41 low decile Comparison children and 41 of 64 high decile Comparison children were taught using the *Sounds Like Fun* approach between Time 4 and Time 5.

Reading Skills at 7 Years



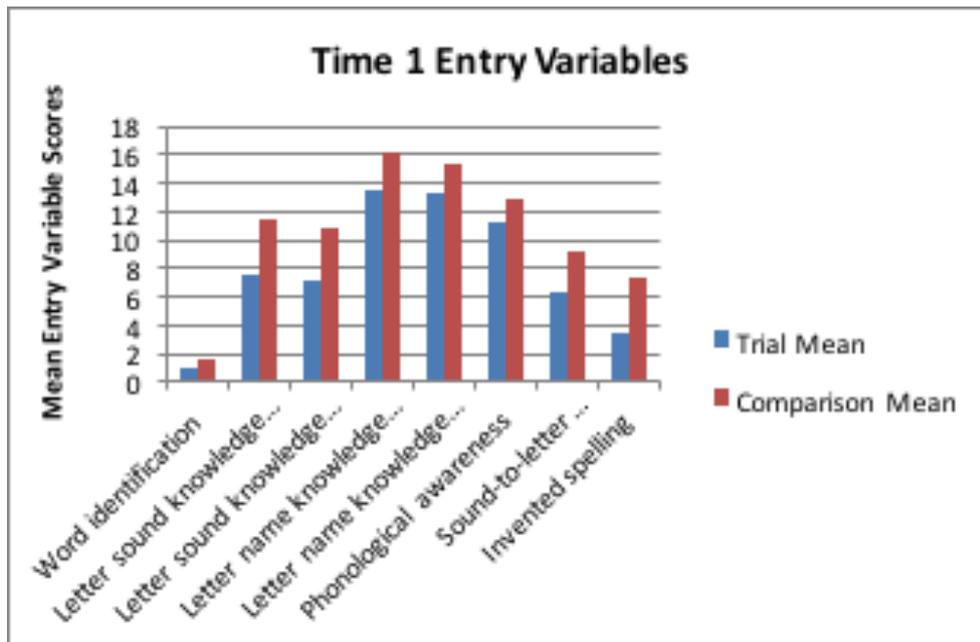
- ◆ After 2 years at school, children in the low decile Trial schools were reading on average five months above their chronological age.
- ◆ Children in the low decile Comparison schools were reading at, or up to two months above their chronological age.
- ◆ Children in the high decile schools were reading between one year, and 18 months above their chronological age.
- ◆ Children in the high decile schools were spelling on average, between 4 and 7 months above their chronological age.
- ◆ Children in the low decile schools were spelling on average, between 1 and 3 months below their chronological age.

Value Added

School Entry – readiness

The results for Time 1 entry assessments show that the Comparison group obtained higher scores overall on the entry assessments than the Trial group. Pakeha and Asian children obtained higher scores than the Maori and Pasifika children. Children in lower decile schools generally started school with less literacy-related knowledge than children in higher decile schools.

Summary Time 1 entry variables for Trial and Comparison children



Predictors

The strongest correlations with the main Time 4 reading outcome measures (reading comprehension and word identification) are for phonological awareness, letter sound knowledge lower case, letter name knowledge upper case, letter sound upper case, and letter name lower case. **What this means is that children who came to school with the highest scores in these areas were more likely to have higher scores for reading related assessments at Time 4 (after 18 months at school).**

For the reason that the four letter knowledge assessments (names and sounds, upper and lower case) were highly predictive of reading outcome performances 18 months later, a composite 'Letter Knowledge' variable was formed, which was the sum total of the four scores. In addition, because the Comparison group scored significantly higher than the Trial group at school entry on letter knowledge, we used a statistical procedure that took into account this initial difference between the two groups (analysis of covariance) when analysing the Time 4 results. This allowed us to measure the 'value added' for children who were exposed to the *Sounds Like Fun* approach in their first two years at school. We are effectively asking this question: **if all children had started school with the same knowledge of letters and letter sounds (that is, the same foundations for early literacy learning), would the Sounds Like Fun teaching approach have made any difference to their achievement?**

Time 4 Results

Introduction

An important focus of the study was on the literacy achievement of Maori and Pasifika children. Therefore, the main analysis design for treating the Time 4 results included Group (Trial vs. Comparison) and Ethnicity (Pakeha vs. Maori vs. Pasifika). Asian children were excluded from this analysis design because they obtained relatively high scores at school entry and their inclusion would have obscured the results for Maori and Pasifika children, which are of primary interest.

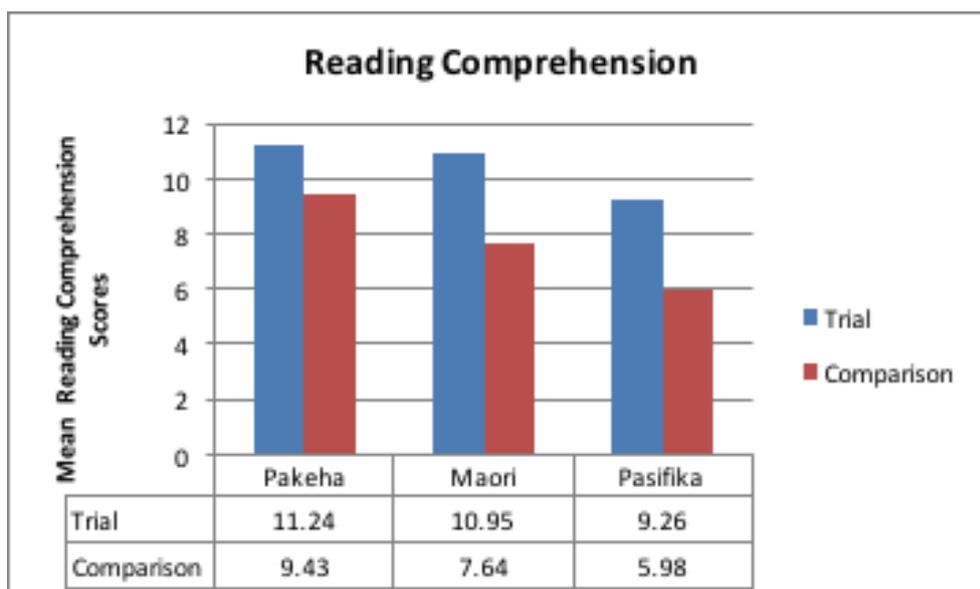
All Time 4 outcome scores except listening comprehension reached levels of statistical significance. The Trial group outperformed the Comparison group on the test of word identification, reading comprehension, reading accuracy, and spelling.

NOTE: The vertical axis on each of the graphs that follow, represents the way in which each assessment result is scored. Each assessment and the way it is scored is different; a score of 10 for example, in reading accuracy does not mean the same as a score of 10 in reading comprehension. Each graph should be viewed as a separate measure showing trends in achievement rather than scores.

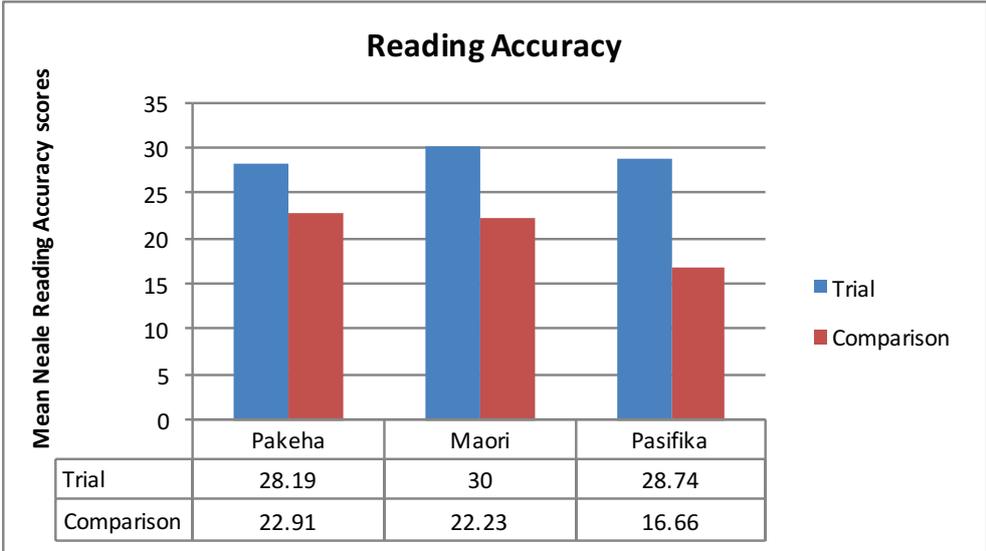
Ethnicity

Maori and Pasifika children in the Trial group performed as well as Pakeha children in that there were no statistically significant differences within the Trial group as a result of ethnic background. Also noteworthy is the finding that Pasifika Trial children obtained significantly higher scores for spelling than Pasifika Comparison children.

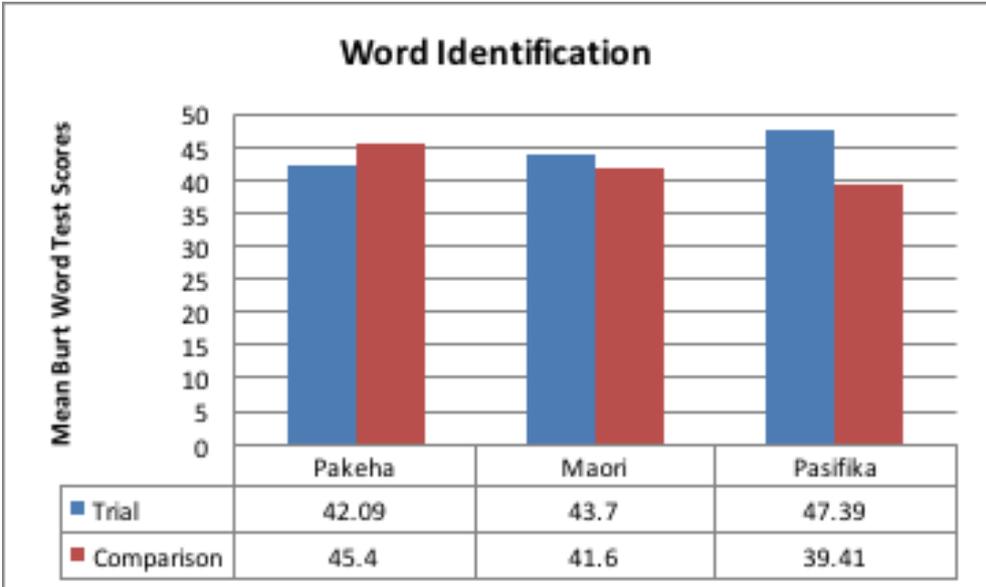
Group mean scores for reading comprehension



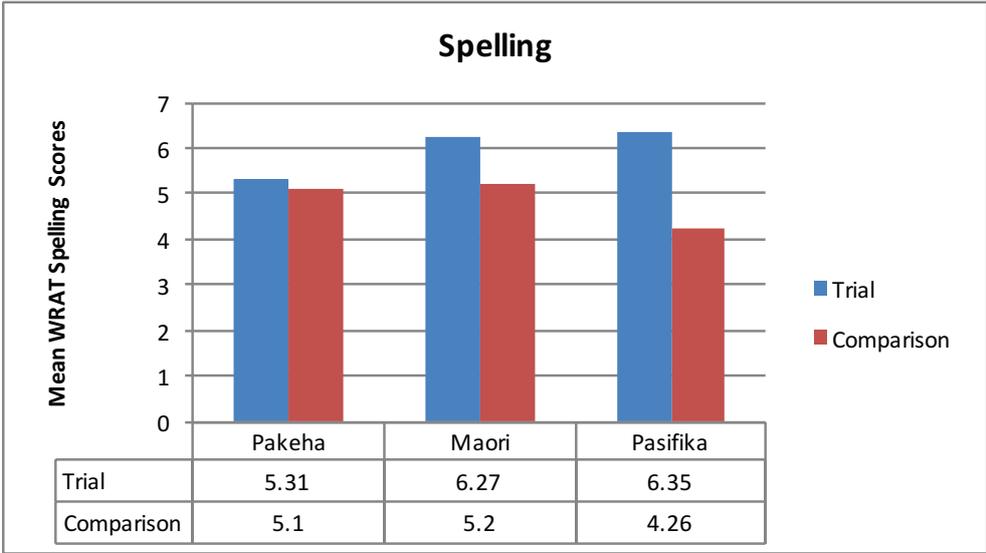
Group mean scores for reading accuracy



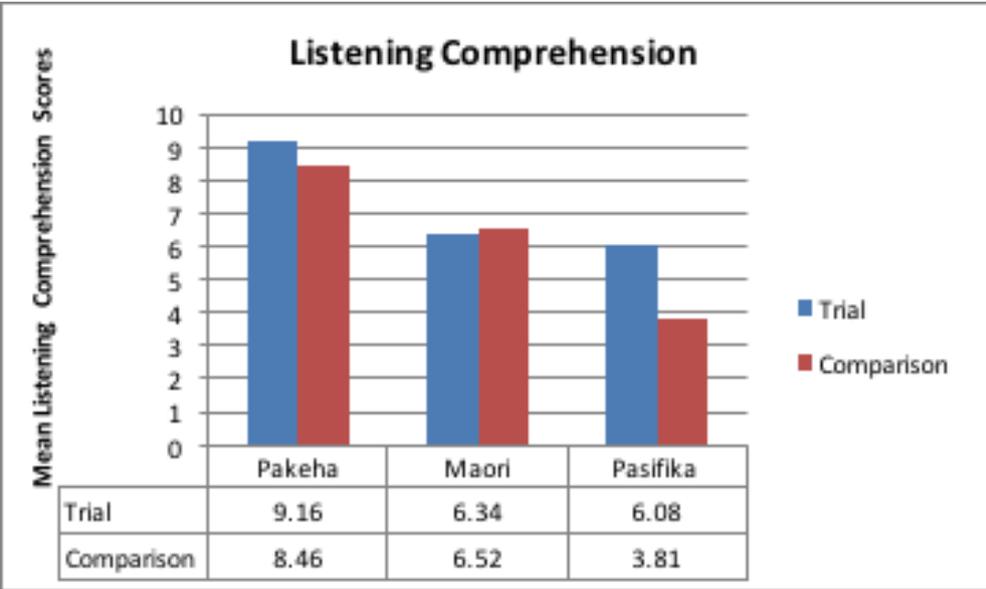
Group mean scores for word identification



Group mean scores for spelling



Group mean scores for listening comprehension

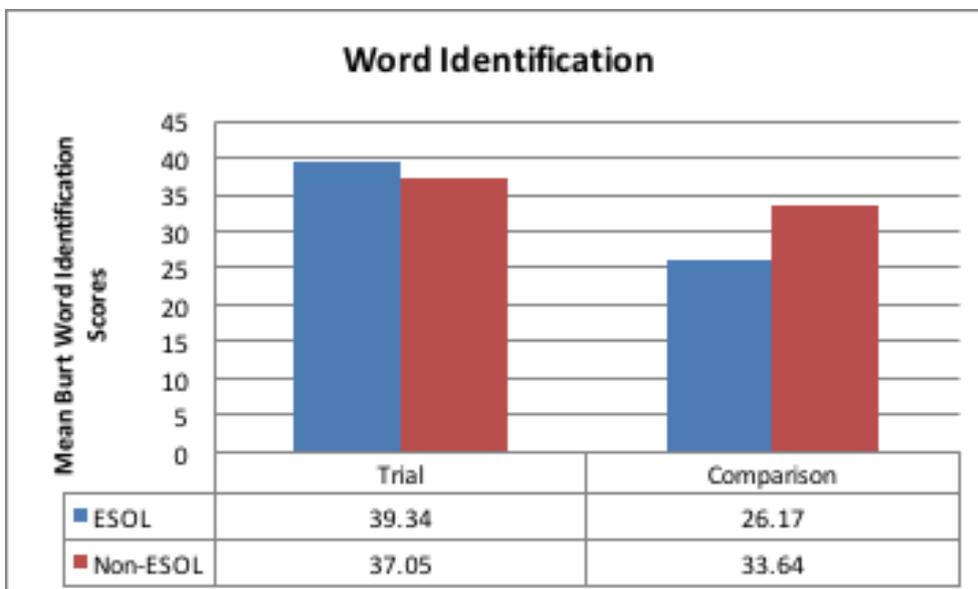


ESOL children

Scores for ESOL children were examined in relation to group membership (Trial vs. Comparison). These analyses included all children; Asian children were not excluded from these analyses. At Time 1, ESOL children performed at levels that in general, were lower than non-ESOL children on all variables. They were significantly below non-ESOL children for receptive vocabulary, phonological awareness, letter knowledge, and sound-to-letter awareness. There were no differences between the ESOL children in the Trial group and the Comparison group.

The main Time 4 finding for ESOL children was that those in the Trial group obtained higher scores than ESOL children in the Comparison group for all variables except spelling, though the differences were not statistically significant.

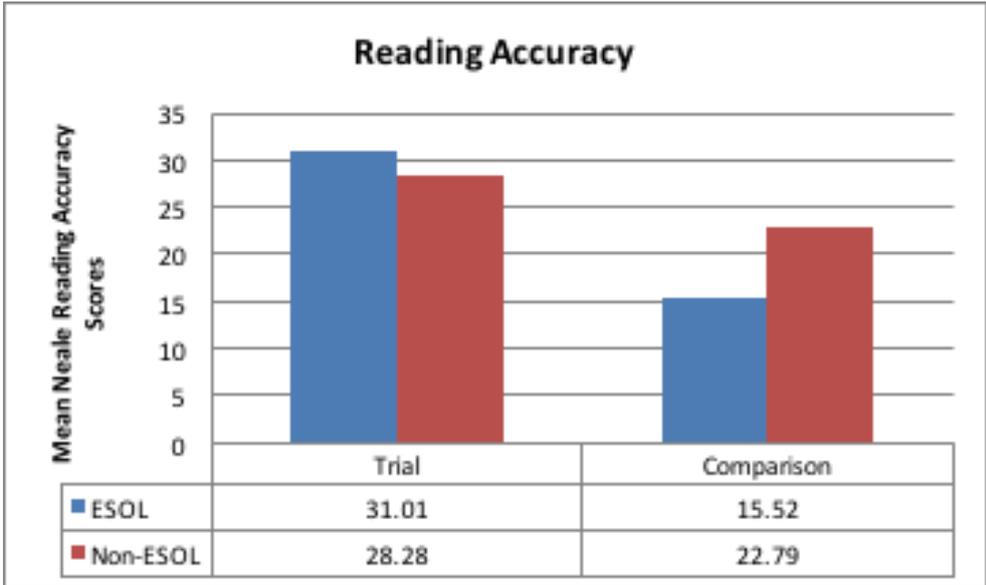
ESOL and non-ESOL mean scores for word identification



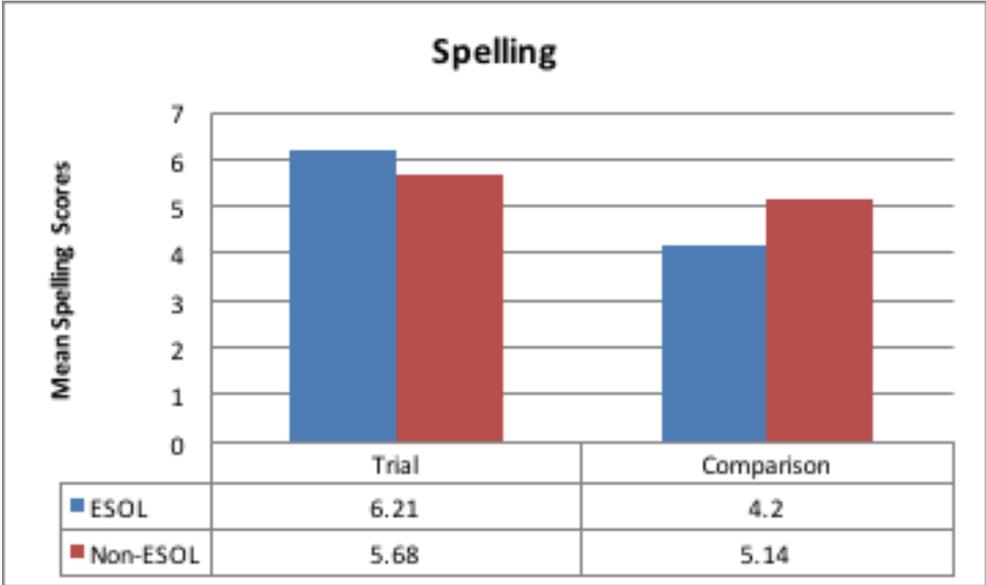
ESOL and non-ESOL mean scores for reading comprehension



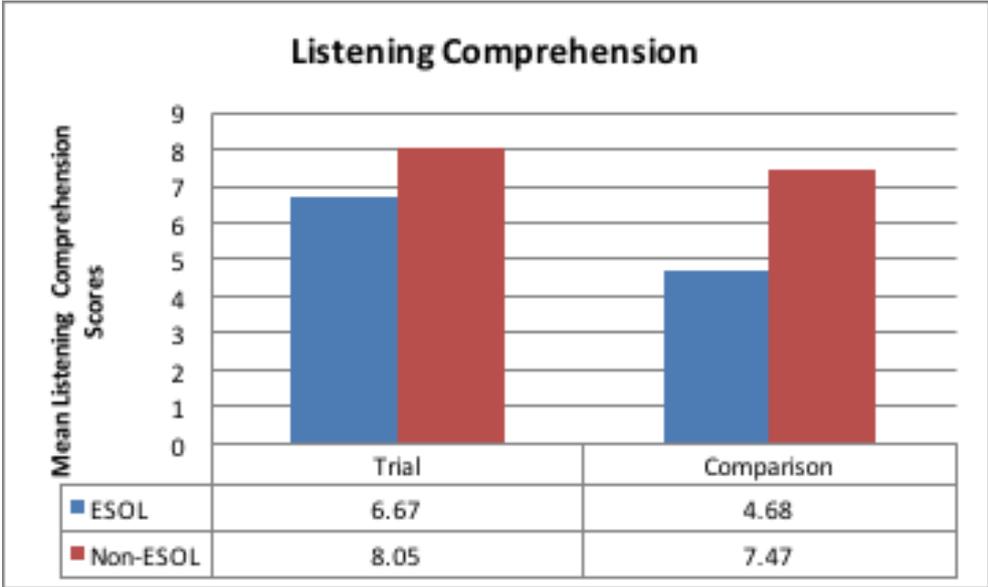
ESOL and non-ESOL mean scores for reading accuracy



ESOL and non-ESOL mean scores for spelling



ESOL and non-ESOL mean scores for listening comprehension

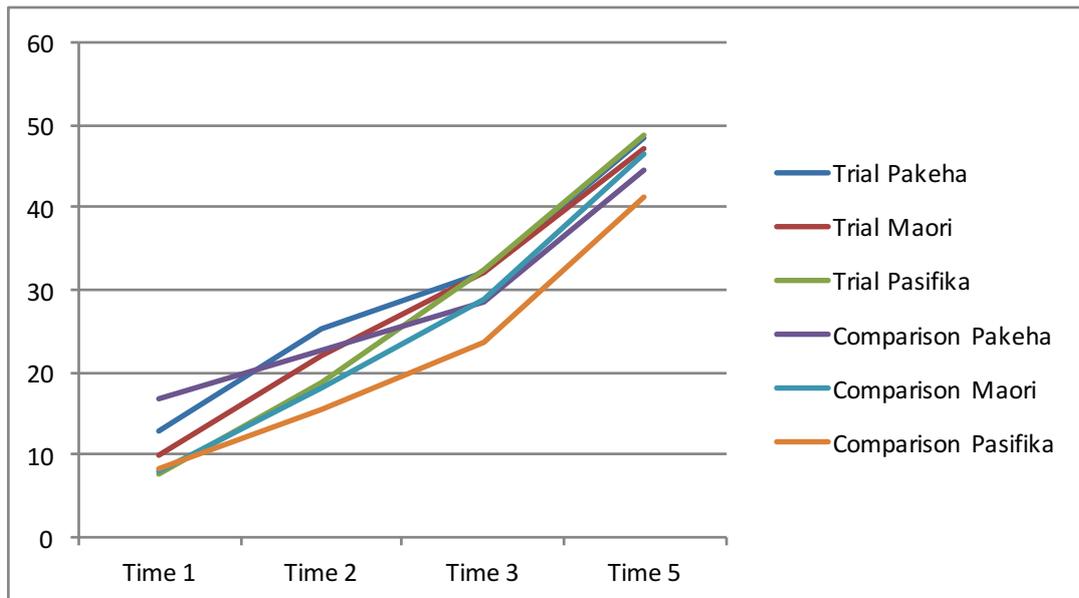


Time 5 Results

Between Time 4 and Time 5, 34 of 41 low decile Comparison children and 41 of 64 high decile Comparison children were introduced to the *Sounds Like Fun* approach. A further set of analyses was performed on Time 5 outcome variables: reading comprehension, reading accuracy, word identification and spelling. Sample graphs illustrating the trends over time for variables that were assessed at different points, are presented below.

Phonemic awareness skills – over two years

Time series for phonological awareness assessments – by ethnic group



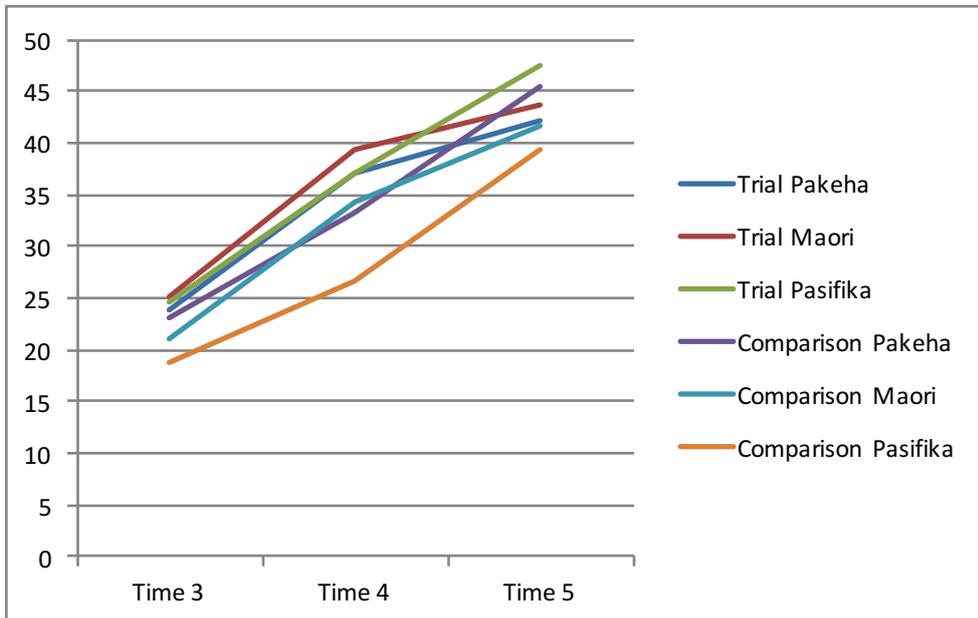
This graph illustrates the trend lines for the measure of phonological awareness. The Pasifika children in the Trial group show a trajectory that indicates gains on this measure relative to the Pasifika children in the Comparison group.

Both Pasifika groups started out at similar levels, however the Trial Pasifika children have reached a level of phonological awareness at Time 3 that is similar to Pakeha and Maori Trial children. By Time 5 the Comparison Pasifika children show a different trajectory with an accelerated rate of progress when compared to their earlier rate.

Reading

The Burt test of word identification was assessed at Times 3, 4 and 5.

Time series for Burt word identification assessments

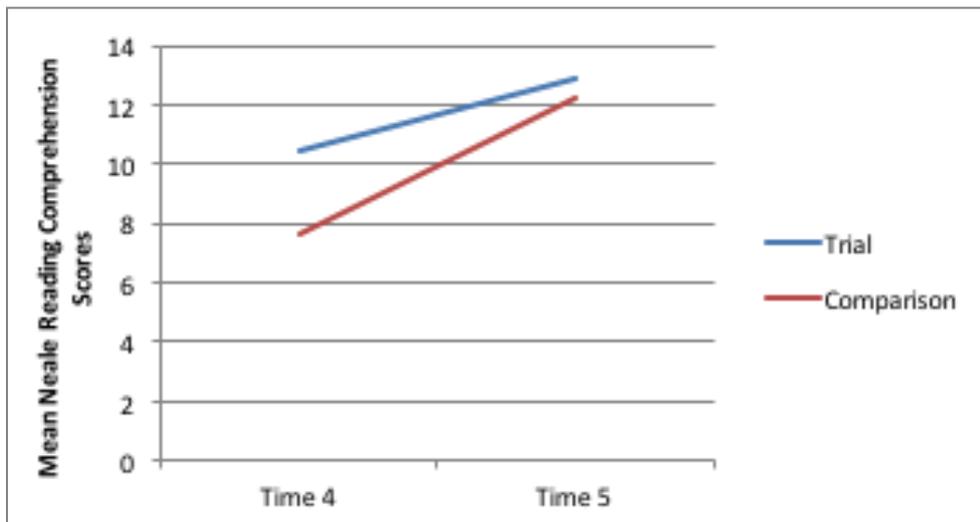


By Time 4, Pakeha, Maori and Pasifika children in the Trial group show similar rates of progress but there is a sharp rise in the trajectory for Trial Pasifika children between Time 4 and Time 5. The Pasifika children in the Comparison group have made the least growth overall, in terms of word identification.

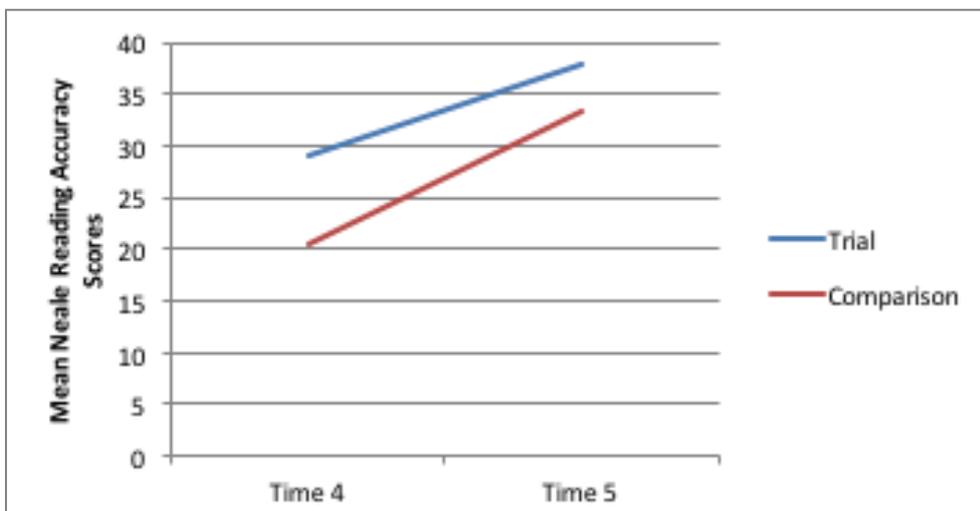
Whereas analyses of outcome variables at Time 4 resulted in significant differences between the Trial and Comparison groups for all but one of the five measures (reading comprehension, reading accuracy, word identification and spelling), only one Time 5 variable resulted in a statistically significant difference between the two groups, namely reading accuracy.

This result suggests that differences in favour of the Trial group at Time 4 were starting to diminish at Time 5 as many of the Comparison children received *Sounds Like Fun* instruction.

Changes in reading comprehension scores between Time 4 and Time 5



Changes in reading accuracy scores between Time 4 and Time 5



The results show that each ethnic group in the Comparison group started to close the gap and showed a greater rate of progress. Similarly, low decile children in the Comparison schools increased more or less in unison with high decile Comparison children.

Summary

The *Shine* Literacy project began because of concern about the number of students who fail to achieve in our education system. Of greater concern was the fact that Maori and Pasifika students, English language learners, and students from low socioeconomic areas make up the majority of those in the 'long tail' of literacy underachievement. The people involved in this project set out to disrupt this typical achievement pattern. Our results show that even if children start school with limited foundational literacy knowledge and skills, it is possible for them to be reading above their chronological age after 18 months to two years at school, through effective early literacy instruction. The 'value added' analysis of data also highlighted that school entry knowledge alone is not enough to ensure literacy success. What happens in our classrooms in the first two years at school is just as important. Teachers have shown that the 'long tail' of literacy underachievement can be eliminated.

The Future

Principals and teachers from the schools in the project have met to discuss the way forward. There is a commitment from many of the schools to continue to work together as a Network of schools to maintain, refine and enhance the work that has been started. A number of schools which were not part of the research project have joined Phase 2 of the *Shine* Literacy Project. Our goals for the future are:

- ◆ Developing the PLD network to maintain teacher support and innovation.
- ◆ Recognising the growing number of expert teachers who can demonstrate good teaching practice and mentor others.
- ◆ Providing opportunities for teachers to work with, be observed by, and learn with expert colleagues.
- ◆ Integrating the network with the new approach to PLD being administered by the Ministry of Education (while maintaining community involvement to support early literacy).
- ◆ Engaging with parents and early childhood education centres to share these results and to develop collaborative approaches to raising the level of foundational early literacy knowledge at school entry.
- ◆ Developing and trialling well-constructed forms of assessment to address gaps in the current range of instruments available.
- ◆ Introducing the Beagle data management application so a wide range of reports can be produced efficiently, and for these purposes guide PLD programmes for teachers and instruction for students to suit individuals, particular groups and the Network as a whole.

Resolving financial dilemmas

Financial support is needed for this project to continue:

- ◆ To employ a coordinator to support the Network of schools.
- ◆ To provide teachers with day release to participate in PLD during the day not after school or in the evening.
- ◆ To provide children with resources that support their learning at school and build on home/school partnerships.
- ◆ To facilitate the introduction of Beagle to allow shared measurement of achievement.

Acknowledgements

This has been a community project made possible by the support of many individuals, schools and organisations. Without this support the project would not have been possible.

We would like to offer our thanks to the following:

- ◆ Schools and teachers who participated in the project. The success of the project is due to the skill and expertise of the teachers who took part. Their professionalism and commitment to the children they teach cannot be overstated. We are enormously lucky to have teachers of such calibre teaching our children every day.
- ◆ Parents and whanau who allowed their children to take part in the project, and of course the children in the classrooms who have helped us refine and enhance the teaching practices we were trialling.
- ◆ The Literacy Research Team from the Institute of Education, Massey University whose support and professional expertise has made this research project possible.
- ◆ The organisations and philanthropic trusts who provided grants to cover the costs of running this project: Porirua Foundation, Infinity Foundation, Mana Community Grants Foundation, Pub Charity, NZ Charities Trust, Todd Foundation, TG McCarthy Trust, Plimmerton Inner Wheel, and Plimmerton Rotary.
- ◆ Te Aho o Te Kura Pounamu who allowed Margaret Paterson to be seconded to this project to take up the role of coordinator.
- ◆ The research assistants who built such great relationships with schools and children as they undertook the assessments in such a professional and supportive manner.
- ◆ The Ministry of Education who funded 217 teacher release days for professional development.
- ◆ Gilt Edge Publishing, Universal Children's Audio, Pixelhouse, MJA Publishing and Beagle Innovations who donated or provided resources at a substantial discount.

Joy Allcock Project Leader

John Cody *Shine*

This report includes results, analyses and explanations taken from Professor James Chapman's final report. His full report which includes test of statistical significance and other details, will be available on www.literacysuccess.org.nz