Reading Recovery in New Zealand: Uptake, implementation, and outcomes, especially in relation to Mäori and Pasifika students

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Executive summary

This report presents the findings of a study conducted for the New Zealand Ministry of Education (MOE) on Reading Recovery, an early intervention for students making limited progress in reading and writing after their first year at school. This study focused on school decisions about offering Reading Recovery and other literacy interventions, and on the implementation of Reading Recovery in schools. It also examined the impact of Reading Recovery on the performance of Mäori and of Pasifika students, relative to other students, by the time their Reading Recovery lessons ended. The report describes features of effective Reading Recovery implementation in schools with high Mäori and Pasifika enrolment, which may be adopted by others.

The data collection methods used in this study included:

- an analysis of the 2003 national Reading Recovery student data collected by the MOE;
- three questionnaires targeting a stratified national sample of schools that went to principals and Reading Recovery teachers at schools offering Reading Recovery, and principals at schools not offering Reading Recovery;
- interviews with three national Reading Recovery trainers and a sample of seven tutors;
- focus group questions for 30 groups of Reading Recovery teachers and their tutors; and
- eight case studies of schools selected for their effective implementation of Reading Recovery, involving staff interviews and the collection of school records.

School uptake of Reading Recovery

In 2003 Reading Recovery was implemented in 67 percent of all state and state-integrated primary and composite schools in New Zealand (Anand & Bennie, 2005). The survey and MOE national 2003 data showed that the uptake of Reading Recovery varied by school type. The schools less likely to offer Reading Recovery were small, rural, or low decile schools, or those with high Mäori enrolment.

Most principals in schools not offering Reading Recovery indicated the desire to do so in the future. The main reasons schools did not offer Reading Recovery were the cost of the intervention, the desire to offer interventions that reached more students, and the unavailability of trained Reading Recovery teachers willing to teach Reading Recovery. Principals from small rural schools reported that in order to offer Reading Recovery they would need funding for the travel costs of Reading Recovery teachers to attend training and Continuing Contact support sessions, and for relievers to release Reading Recovery teachers. They would also need better access to Reading Recovery clusters.

Other interventions offered to students in Years 1–3

At both Reading Recovery and non-Reading Recovery schools Mäori and Pasifika students were more likely than students of other ethnicities to receive a literacy intervention (including Reading Recovery) indicating a greater need. We do not know if this was primarily related to family income or maternal education as the national Reading Recovery data does not enable analysis by these factors.

The other interventions most commonly offered to students in Years 1–3 in both Reading Recovery and non-Reading Recovery schools were interventions provided by teacher aides, Resource Teachers of Literacy (RTLits), or Resource Teachers of Learning and Behaviour (RTLLBs), and phonics programmes. Survey responses suggest that a substantial number of schools had not monitored the effectiveness of these interventions.

Of note was the high number of literacy interventions being offered at some Reading Recovery and non-Reading Recovery schools. When considered alongside the finding that some schools were not monitoring the effectiveness of their interventions this finding suggests the need for further support and professional development on the school-wide selection and planned use of literacy interventions. It also indicates the need for evidence of the effectiveness of these other interventions so that school use of operational grant funding on literacy interventions is informed and efficient.

Student access to Reading Recovery

Although Mäori and Pasifika students were over-represented in Reading Recovery, they were also over-represented in the categories of students most likely to miss out on the intervention. Three main groups of students did not have access to Reading Recovery. These were students in:

- schools that did not offer Reading Recovery;
- Mäori medium education; and
- schools with low levels of implementation (provision) relative to need.

Mäori and Pasifika students were over-represented in many of the school types that did not offer Reading Recovery. They were also over-represented in the types of schools most likely to report high numbers of students missing out on Reading Recovery. These were low decile, large, urban, and contributing schools. This shows that equitable access is a primary issue when considering the impact of Reading Recovery for Mäori and Pasifika students.

The recommended entry criteria for Reading Recovery

Trainers, tutors, case study school staff, and most survey respondents in Reading Recovery schools considered 6 to 6-and-a-half to be the best age for students to begin Reading Recovery.

Those survey respondents who did not think this was the case tended to come from low decile schools and schools with very high Mäori enrolment. They considered that some students were not ready for Reading Recovery by the age of 6 due to their oral language performance, to their lack of school-like literacy experiences, or to their maturity. Trainers, tutors, case study staff, and some survey respondents noted that an alternative solution to delaying the entry of such students into Reading Recovery was to provide literacy professional development to Year 1 teachers, more focused literacy instruction and literacy or ESOL interventions in Year 1, or to provide school-like literacy activities to children in early childhood settings. These strategies were used successfully in the eight effective Reading Recovery schools.

According to trainers and tutors, the practices of delaying students' entry into Reading Recovery until they were considered "ready", and excluding the lowest performing 6-year-olds from Reading Recovery in the belief that others would make quicker progress were the result of pressure for Reading Recovery places. Such practices were indicative of schools with low levels of implementation relative to need or of schools unable to adequately address the literacy needs of their Year 1 students. They considered that funding or teacher-related issues underlay many of the beliefs and practices related to student readiness and potential to make rapid progress. Trainers did not think it was possible to predict students' rates of progress or outcomes in Reading Recovery by entry scores or behaviours, and this perception was confirmed by MOE analyses of the Reading Recovery national data and the analysis conducted as part of this evaluation.

The effectiveness of Reading Recovery

The impact of Reading Recovery on student performance

The results of the analysis of the national 2003 Reading Recovery data showed that gains were made by students in Reading Recovery across all school and student characteristics, indicating the intervention was effective for different students and in a range of contexts. Students entered Reading Recovery with different levels of performance and these differences were reduced for discontinued students by the time their series of lessons ended. Those with the lowest initial scores tended to make the greatest gains. There were, however, differences in the number of lessons discontinued students received in order to achieve these results. Discontinued students with the lowest entry scores (who tended to be Mäori and Pasifika students and students from low decile schools) tended to have the greatest number of lessons. This suggests that the practice of providing more lessons to those students with greater needs is an important one for reducing differences in student performance.

Perceptions of the effectiveness of Reading Recovery

Principals across all school types considered Reading Recovery to be a cost-effective intervention that worked well in their schools. The main strengths of Reading Recovery when compared with

other literacy interventions identified by the survey, interview, and focus group respondents in this study were that it:

- is delivered by teachers with specialist training who receive ongoing professional development and support;
- is designed to supplement the class programme;
- is a one-to-one intervention which can be tailored to individual needs;
- involves daily instruction;
- includes reading, writing, and oral language;
- develops students' metacognitive skills building towards a self-extending system;
- uses data to inform student selection, instruction, and outcome decisions; and
- has a research base.

The emphasis on phonological processing and reading for meaning

The national trainers and tutors described how Reading Recovery had been modified over time in response to research findings to incorporate a greater emphasis on phonemic awareness and phonological processing, along with other refinements in the emphasis on visual perception, language structures and fluency, oral language, and writing. This was confirmed by findings reported in the research literature.

Nearly all teachers at the eight effective Reading Recovery schools observed that one of the strengths common to Reading Recovery students when compared with other students was the range of strategies they had at their disposal. They commented on the embedded nature and systematic employment of these strategies, and students' ability to articulate their use of these strategies. The majority of survey respondents from Reading Recovery schools also considered that one of the strengths of Reading Recovery when compared with other literacy interventions was the emphasis placed on a range of reading strategies.

Principles of effective implementation of Reading Recovery

Trainers, tutors, and some survey respondents identified a number of challenges for the effective implementation of Reading Recovery faced by some schools. These included large numbers of students entering school with low levels of oral language performance, and issues with students' attendance and mobility. The case study schools also faced these challenges. However staff at these schools considered Reading Recovery to be an effective intervention well suited to their students. Common to these schools were a number of characteristics and strategies seen to contribute to the effective implementation of Reading Recovery. They provide some principles of good practice for effective implementation and include:

- a school-wide commitment to Reading Recovery;
- the integration of Reading Recovery into an overall literacy plan;
- a commitment to literacy acceleration in the first year of school;

- high Reading Recovery implementation relative to need;
- skilled Reading Recovery teachers;
- strong lines of communication between Reading Recovery teachers and class teachers;
- consistent expectations and use of strategies by Reading Recovery teachers and class teachers;
- a commitment to involving parents;
- high expectations of student attendance and a commitment to Reading Recovery lesson continuity;
- ongoing monitoring of discontinued Reading Recovery students; and
- interventions for students in Year 3 and beyond needing additional literacy support.

Recommended changes to Reading Recovery

Recommended changes to Reading Recovery made by the participants in this study tended to relate to the implementation of Reading Recovery at their particular schools or on a national basis, rather than to the Reading Recovery model itself. The main school-based recommendations related to:

- improving the communication between the Reading Recovery teacher and teachers of students who had been discontinued the previous year; and
- improving partnerships with parents.

Recommended changes to the national implementation of Reading Recovery related primarily to the funding of Reading Recovery. These included:

- increasing the MOE staffing allocation for Reading Recovery;
- ensuring variation in the distribution of the staffing allocation better reflected variation in need at different schools;
- catering for unexpected need by, for example, having a more readily available emergency staffing allocation provision for schools experiencing unanticipated influxes of 6-year-olds needing Reading Recovery;
- increasing the staffing allocation to provide non-contact time for a range of activities such as administration, collecting students from class, observing students in class, ongoing monitoring, and travel time;
- funding the travel costs of teachers attending training, and Continuing Contact sessions; and
- providing more or all teachers with Reading Recovery training.

These recommendations suggest that the staffing allocation was not considered adequate to meet student need. However the provision of Reading Recovery places is dependent on both the MOE staffing allocation and on school use of the operations grant or other discretionary funding. Schools are expected to at least match the hours provided by the MOE. The extent to which schools meet their need for Reading Recovery places is therefore partially dependent on school priorities for using their discretionary funding. In all but one of the case study schools the school contribution to Reading Recovery staffing was greater, in some cases considerably greater, than

the staffing allocation provided by the MOE. The staff at most of these schools considered all who needed Reading Recovery had access to it. Schools also have the option of using discretionary funding to cater for unexpected arrivals of students needing Reading Recovery or to provide additional time for Reading Recovery teachers to carry out activities such as observing and monitoring discontinued students. Some of the effective Reading Recovery schools had also taken these options. However staff at these schools observed that their commitment to funding Reading Recovery staffing was at the expense of other things, highlighting the delicate juggling act schools face in the use of their discretionary funding.

The effectiveness of Reading Recovery for Mäori and Pasifika students

Impact of Reading Recovery on Mäori and Pasifika students' performance

The analysis of the national 2003 Reading Recovery data provides information for considering the effectiveness of Reading Recovery for Mäori and Pasifika students relative to students of other ethnicities in three main ways:

- the impact of Reading Recovery on the achievement of discontinued Mäori and Pasifika students when compared with those of other ethnicities;
- the proportion of Mäori and Pasifika students who were discontinued or referred when compared with those of other ethnicities, and
- the impact of Reading Recovery on the achievement of referred Mäori and Pasifika students when compared with those of other ethnicities.

Impact of Reading Recovery on discontinued students

Mäori and Pasifika students entered Reading Recovery with lower initial scores than other students and these differences were reduced by the time their series of Reading Recovery lessons ended. However Mäori and Pasifika students received a greater number of lessons than other students. This finding supports the practice of providing more lessons to those students with greatest need in order to ensure equitable outcomes.

Differences in student outcomes appeared to be more related to the type of school students attended than their ethnicity: students from low decile schools, particularly large, urban, state schools (at which a substantial number of Mäori and Pasifika students attend) had lower initial and final overall scores than their counterparts from other schools.

Proportion of Mäori and Pasifika students who were discontinued

Mäori and Pasifika students were less likely to have their series of lessons discontinued than other students. This may have been because a higher proportion of Mäori and Pasifika students attend

low decile schools and students in lower decile schools were less likely to be discontinued. The two main reasons students were not discontinued were because the decision was made to refer them to another intervention or because students moved schools before completing their series of Reading Recovery lessons. Student mobility, which is more likely to occur in low decile schools (Wylie, 1999), can result in a failure to be discontinued if the new school does not offer Reading Recovery or does not provide the transferring student with a Reading Recovery place before they are considered too old to take it. Trainers and tutors considered that this was more likely to occur when there was a pressure for places in schools with low levels of implementation relative to need. The survey results indicate that large urban schools and low decile schools are more likely to have low levels of implementation relative to need.

Impact of Reading Recovery on students who were referred

While Reading Recovery was effective in reducing initial differences in performance of discontinued students, this did not tend to be the case for students who were referred, particularly for those in low decile schools. This was most likely due to the different number of lessons students received before being referred. Mäori and Pasifika students received fewer lessons before referral than other students. This may relate to the fact that a higher proportion of Mäori and Pasifika students are located in low decile schools: the number of lessons received by referred students tended to decrease with decreasing decile. However, even within low decile schools, Mäori and Pasifika students received fewer lessons before referral than students of other ethnicities who had similar initial achievement. The finding that Mäori and Pasifika students were more likely to be referred to another intervention and after fewer lessons than other students highlights the need to examine and fine-tune the Reading Recovery and classroom experiences of these students to reduce the higher probability of them being referred.

Features of Reading Recovery considered to support the performance of Mäori and Pasifika students

The features of Reading Recovery considered most important for supporting the progress of Mäori and Pasifika students related to the one-to-one nature of tuition because this enabled teachers to:

- build close relationships with students;
- provide a safe learning environment in which students were not at risk of feeling shamed in front of their peers;
- learn about the diversity of students' out-of-school experiences;
- cater for these experiences through text selection, and story writing topics;
- negotiate the meanings and vocabulary in texts based on experiences foreign to students; and
- model oral language structures and engage students in the use of these language structures in authentic and meaningful contexts.

Suggested modifications for Mäori and Pasifika students

The findings of this study highlight a number of possible modifications for further improving Mäori and Pasifika students' progress in Reading Recovery. These include:

- ensuring "first wave" teaching better meets the needs of Mäori and Pasifika students;
- ensuring that Reading Recovery training supports Reading Recovery teachers to develop a wide range of strategies for identifying the cognitive, linguistic, and cultural resources of Mäori and Pasifika students;
- examining the Reading Recovery experiences of students who are referred and school decisions about their referral;
- increasing the number of Mäori and Pasifika Reading Recovery teachers;
- increasing the availability of texts set in a wide range of Mäori and Pasifika contexts; and
- strengthening home-school partnerships.

Views on the delivery of Reading Recovery in te reo Mäori varied. Some emphasised the need to reconstruct Reading Recovery so that it could be delivered in te reo Mäori. Some questioned the need for Reading Recovery in te reo Mäori as they considered that students did not have great difficulty in learning to read due to the phonologically transparent nature of the language. Others questioned the extent to which the philosophy and approaches of Reading Recovery aligned with Te Aho Matua philosophies. The provision of Reading Recovery in te reo Mäori would involve a complete research-based reconstruction of Reading Recovery driven by those involved in Mäori medium education.

Summary

Reading Recovery is well established in New Zealand schools. It was considered a cost-effective intervention that was operating successfully by staff in schools that offered Reading Recovery. Most principals in schools not offering Reading Recovery indicated they would like to do so in the future; the main barriers faced by these schools were the cost, in relation to other school priorities, and the availability of trained Reading Recovery teachers willing to teach Reading Recovery.

Recommended changes tended to relate to questions of implementation, rather than to features of the model itself. The effective schools selected as case studies provided examples of how Reading Recovery can be successfully implemented in low decile schools with high Mäori and Pasifika enrolment. These schools had high levels of Reading Recovery implementation relative to need and Reading Recovery was part of a planned and coherent school-wide literacy strategy beginning in Year 1 or in early childhood settings. They exhibited to varying degrees features common to strong professional learning communities and the Reading Recovery teachers played an important role in these communities.

Students across all the school and student characteristics made gains while on Reading Recovery. Mäori and Pasifika students entered Reading Recovery with lower scores than those of other students and these differences were reduced for discontinued students by the time their series of lessons ended. The findings of this study indicate that the effectiveness of Reading Recovery for Mäori and Pasifika students would be further enhanced by addressing barriers to access, by better meeting the needs of Mäori and Pasifika students in "first wave" instruction, and by investigating more closely the Reading Recovery and classroom experiences of students referred to other interventions and the reasons for these referrals.

1.   Introduction

This section of the report provides background information on Reading Recovery and describes the context and purpose of the research. It outlines the research questions and describes the research design, including the methodology, methods, sampling, and data analysis.

A description of Reading Recovery in the New Zealand context

Reading Recovery is an early intervention designed by Dame Marie Clay for children making limited progress in reading and writing after their first year of school. It involves one-to-one daily instruction for approximately 30 minutes per day over a 12–20-week period. It is delivered by specially trained teachers and is supplementary to the classroom programme. Reading Recovery is implemented nationally. Schools decide whether to implement Reading Recovery and the number of teachers they need. In 2003 Reading Recovery was offered at 67 percent of New Zealand schools catering for 78 percent of the 6-year-old population (Anand & Bennie, 2005).

Most schools offering Reading Recovery receive a staffing allocation from the MOE. Reading Recovery is viewed as a partnership between the MOE and schools, and it is expected that schools will match the hours provided by the MOE. The hours allocated to national Reading Recovery staffing each year are distributed to regional Ministry of Education officers who then allocate these hours to schools in consultation with tutors. Priority is given to teachers in their training year. The remaining hours are allocated according to need and processes for allocating these hours differ according to region.

Reading Recovery is intended for the lowest performing text readers and writers. While the conventional practice is to identify about 20 percent of the school cohort for Reading Recovery, this varies by school and ranges from the bottom 5 to 30 percent of the school cohort (Anand & Bennie, 2004). Results from the Observation Survey[1] and the Burt Word Reading Test (Gilmore, Croft, & Reid, 1981) are used as the basis for selecting students for Reading Recovery. The Observation Survey consists of six assessment tasks including Concepts about Print, Letter

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[1]   Further information about the Observation Survey can be found in Clay (2002).

Identification, Book Level, Word Reading, Writing Vocabulary, and Hearing and Recording Sounds in Words.

Monitoring information has been collected by the MOE since 1984. From 2001 Reading Recovery students were given identification numbers and individual student data was collected. These data are published on the MOE website, which can be accessed at www.minedu.govt.nz/goto/readingrecovery.

Reading Recovery involves three levels of training. National trainers provide training to tutors. These tutors then train Reading Recovery teachers. Reading Recovery teachers undergo one year of training during which they work individually with a minimum of four children for at least half an hour each day, and attend fortnightly inservice training sessions. Trained Reading Recovery teachers continue to attend regular Continuing Contact guided support sessions involving the observation and discussion of Reading Recovery lessons. Reading Recovery tutors provide teacher training and ongoing professional development for trained Reading Recovery teachers. They also provide support and advice to school Reading Recovery teams. They undergo one year of full-time training provided by Reading Recovery trainers at the University of Auckland Faculty of Education who, in turn, undergo one year of postgraduate study.

Some Reading Recovery teachers are classroom teachers who are released for a certain amount of time each day to teach Reading Recovery. Some do not have a class but work full-time or nearly full-time taking Reading Recovery and, in some cases, are responsible for other school interventions. Some work part-time in one school as a Reading Recovery teacher, while others work at a number of different schools.

Some schools, particularly small schools, form clusters to share the services of one Reading Recovery teacher. In order to be eligible for a staffing allocation and MOE reimbursement of Reading Recovery teacher travel expenses, clusters may apply to be a recognised cluster. Reading Recovery teachers from schools in MOE-recognised clusters are reimbursed from their base school.

A team consisting of the Reading Recovery teacher(s), the principal, the assistant or deputy principal responsible for junior classes, and other junior school staff typically share responsibility for the school implementation of Reading Recovery. This team is involved in selecting students for Reading Recovery, and evaluating their outcomes.

The first two weeks of Reading Recovery lessons is termed *Roaming around the Known*, during which time the teacher and student work with what the child already knows. It provides the opportunity for the Reading Recovery teacher to learn about the student's reading strategies, prior experiences, interests, to build their confidence, and to establish a relationship with them.

Each Reading Recovery lesson includes a number of common components the order and nature of which may change according to the changing needs of individuals. The purpose of these activities is to provide students with a "broad-based range of strategic behaviours which comes from knowing how to problem-solve in both reading and writing" (Clay, 2001, p. 221).

These activities include:

- reading familiar texts;
- independent reading of the previous day's text;
- the use of magnetic letters for letter identification and making letter-sound links;
- the use of magnetic letters for making and breaking activities involving taking words apart and making new words;
- composing and writing a story;
- reconstructing a cut-up version of this story;
- shared discussion of the sense, plot, and vocabulary of a new text; and
- reading the new text.

Students no longer receive Reading Recovery once they reach the average band of performance for their classes, have developed basic reading and writing skills which teachers judge they are unlikely to lose, and demonstrate the beginnings of a self-extending system that could prevent future problems in literacy learning. The average time in Reading Recovery ranges from 12–15 weeks (Clay, 1993). Students do not typically receive more than 20 weeks of Reading Recovery. After 20 weeks, if it is judged that the student will be able to continue learning in the classroom programme he or she will have their series of lessons discontinued, and if not, the student is referred to other specialist help such as an RTLit.

Further information on the development of Reading Recovery can be found in Clay (2001) and more detailed information about the nature of Reading Recovery lessons in Clay (1993, 2001). A new guidebook for teachers is in press.

Research context

The international recognition of Reading Recovery as one of the most successful interventions for the support and acceleration of children making limited reading progress is noted in the *Report of the Literacy Taskforce* (Ministry of Education, 1999a). There has been much international research carried out on Reading Recovery which, along with the New Zealand-based studies, is reviewed in the following chapter. The Ministry of Education (MOE) annually collects, collates, and publishes data from schools operating Reading Recovery and some analysis of this data has been conducted (Anand & Bennie, 2004; Anand & Bennie, 2005). Both the Literacy Taskforce (Ministry of Education, 1999a) and the Literacy Experts Group (Ministry of Education, 1999b) identified the need for further research into the effectiveness of Reading Recovery, in the context of the New Zealand education system, in order to identify trends indicating the need for refinements or improvements.

Purpose and strategic importance of the research

The purpose of this study is to investigate school decisions about offering Reading Recovery and other literacy interventions, and to examine the effectiveness of Reading Recovery and its implementation, particularly for Mäori and Pasifika students. The findings from this research will inform the Ministry of Education's ongoing literacy strategy, and should also be of use to those responsible for running the Reading Recovery training programme. The information from this research should also be of use to those schools in which Reading Recovery is currently operating, and those that are considering implementing it. This report includes models of effective Reading Recovery implementation in schools with high Mäori and Pasifika enrolment, which may be adopted or adapted by others.

Research questions

The Ministry of Education developed the research questions for this study with input from NZCER. The research questions are:

1. What are the patterns of uptake of Reading Recovery by decile and what are the reasons for these differences?
2. What are the programmes or interventions other than Reading Recovery that mainstream New Zealand schools make use of to reduce literacy difficulties in 5–7-year-olds? What proportion of Mäori and Pasifika children get absorbed into these other programmes as well as, or instead of, Reading Recovery?
3. How equitable is school and student access to Reading Recovery? Is Reading Recovery being targeted to the schools and children with the greatest need nationally?
4. What are the criteria used to determine entry into Reading Recovery? How effective are these considered to be in ensuring that those within each school who most need Reading Recovery, or are best placed to make progress in Reading Recovery, have access to it?
5. In what ways is Reading Recovery building on the phonological processing and comprehension skills of children to ensure their long-term progress after having been discontinued from Reading Recovery?[2]
6. To what extent is Reading Recovery improving the literacy achievement of Mäori and Pasifika children compared with New Zealand European children?[3]

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[2] Our aim here was to gather the perceptions of a range of Reading Recovery and school staff, including teachers of students who had been in Reading Recovery up to one year ago, about the ways in which Reading Recovery supports students to develop phonological processing and comprehension skills. We did not systematically gather achievement data on the progress of students following Reading Recovery, although we did record teacher perceptions of this.

[3] Our aim here was to compare shifts in performance of Mäori and Pasifika students between entry and completion points in Reading Recovery, relative to other students also receiving Reading Recovery.

7. Which aspects of the Reading Recovery programme are considered to be particularly effective for Mäori and Pasifika children and are there any changes considered necessary to improve its effectiveness for Mäori and Pasifika children?

Research design

Methodology

One of the aims of this study was to capture the viewpoints of a range of key players involved in Reading Recovery, from national trainers through to the classroom teachers. For this research we used a multi-method design involving both qualitative and quantitative methods of data collection to enable a greater breadth and depth of analysis than could be obtained in a single-method study (Yin, 1994; Creswell, 1994; Patton, 1990). The reliability and validity of this study were strengthened through the triangulation of both methods and data (Patton, 1990, Hakim, 1987).

The methods of data collection used in this study included:

- an analysis of the 2003 national Reading Recovery data;
- three questionnaires targeting a stratified national sample of schools that went to principals and Reading Recovery teachers at schools offering Reading Recovery, and principals at schools not offering Reading Recovery;
- interviews with three national Reading Recovery trainers and a sample of seven tutors;
- focus group questions for 30 groups of Reading Recovery teachers and their tutors; and
- eight case studies of schools selected for their effective implementation of Reading Recovery, involving staff interviews and the collection of school records.

These methods of data collection addressed a range of purposes. The main purpose for analysing the 2003 national data was to compare the impact of Reading Recovery on particular groups of students, such as Mäori and Pasifika students, with others who also received the intervention. The purpose of the questionnaires was to gather the perspectives of a large and representative group of participants from both schools offering Reading Recovery and schools not offering Reading Recovery. The focus groups provided more qualitative responses to amplify the survey responses. The purpose of the interviews with the national trainers and tutors was to canvass the beliefs and professional judgements of the core group responsible for training Reading Recovery tutors and teachers. An important aspect of the study was to illuminate elements of good practice in low decile, high Mäori and Pasifika enrolment schools with effective Reading Recovery implementation. Because practice is context bound, we considered the best way of highlighting and exploring good practice was through case studies of schools. The need to use case studies to describe effective schools as functioning organisations is clearly signalled in the literature (Newmann, Smith, Allensworth, & Byrk, 2001).

Table 1 shows the data collection methods used to answer each of the research questions, and these are described in more detail below.

Table 1   **Data collection methods used to answer the research questions**

Focus of research question	Data collection methods
Patterns of uptake of Reading Recovery by decile and reasons for this	Principal survey Analysis of 2003 Reading Recovery data
Proportion of Mäori and Pasifika in Reading Recovery and in other literacy programmes targeting 5–7-year-old low performing readers	Principal survey
Equity of school and student access to Reading Recovery and the extent to which Reading Recovery targets schools and students with the greatest need	Analysis of 2003 Reading Recovery data Principal survey Reading Recovery teacher survey Reading Recovery teacher focus groups Case study interviews National trainer interviews Reading Recovery tutor interviews
Criteria used to determine entry into Reading Recovery and views on the effectiveness of this in ensuring that those students most in need or best placed to make progress within each school have access to it	Principal survey Reading Recovery teacher survey Reading Recovery teacher focus groups Case study interviews National trainer interviews Reading Recovery tutor interviews
Instructional strategies used in Reading Recovery and views on the effectiveness of these for the long-term progress of Mäori and Pasifika students	Literature overview Principal survey Reading Recovery teacher survey Reading Recovery teacher focus groups Case study interviews Case study school records National trainer interviews Reading Recovery tutor interviews
Extent to which Reading Recovery is improving the literacy achievement of Mäori and Pasifika students compared to NZ European children	Analysis of 2003 Reading Recovery data
Aspects of Reading Recovery considered particularly effective for Mäori and Pasifika students and changes that could be made to improve its effectiveness for Mäori and Pasifika students	Literature overview Principal survey Reading Recovery teacher survey Reading Recovery teacher focus groups Case study interviews Case study school records National trainer interviews Reading Recovery tutor interviews

Ministry of Education 2003 Reading Recovery dataset

The Ministry of Education 2003 Reading Recovery dataset was used to further investigate trends by ethnicity, decile, and other school characteristics, students' literacy levels on entry into Reading Recovery, time spent in the programme, rates at which students were referred into specialist programmes, and rates at which students were discontinued. The purpose of this analysis was to determine the relative effectiveness of Reading Recovery for Mäori and Pasifika students as compared with New Zealand European students and students of other ethnicities, and whether this varied by school characteristics.

Survey

In order to gain a wider picture of school uptake of Reading Recovery, and staff views about Reading Recovery and other literacy interventions, a national survey of schools with Years 1–3 students was included in the research. Three surveys were developed: one for principals of schools offering Reading Recovery, (found in Appendix A), one for the lead Reading Recovery teacher at this school, (found in Appendix B), and one for principals of schools not offering Reading Recovery, (found in Appendix C).

A stratified random sample of approximately 20 percent of the 2045 full primary, composite, and contributing schools in New Zealand was selected for the survey from the Ministry of Education March 2004 school lists. The population was stratified by whether the school was likely to offer Reading Recovery or not,[4] by decile, and by whether the school was located in an urban or rural area. In total 428 schools were sampled. From the returns we estimated that the sample included 68 percent (289) of schools offering or being likely to offer Reading Recovery, and 32 percent (139) not offering Reading Recovery. This is very similar to the national data. Anand and Bennie (2005) report that 67 percent of schools offered Reading Recovery in 2003.

In total at least one questionnaire was received from 305 of the 428 schools giving an overall return rate of 71 percent. We received questionnaires from 195 principals of schools offering Reading Recovery, 171 Reading Recovery teachers, and 81 principals of schools not offering Reading Recovery. From these figures we estimated that approximately 67 percent of principals of schools offering Reading Recovery, 59 percent of Reading Recovery teachers, and 58 percent of principals of schools not offering Reading Recovery returned a questionnaire.

Appendix D shows the characteristics of primary schools nationwide from the 2004 Ministry of Education March school lists, the characteristics of the schools in the Ministry of Education 2003 Reading Recovery dataset, and the characteristics of the sample and the returns for this study.

The schools of the principals and teachers who returned Reading Recovery surveys were similar in nature to the schools in the Ministry of Education 2003 Reading Recovery dataset, indicating that the returns were representative of Reading Recovery schools as a whole.

The sample was broadly representative of primary schools nationwide, but the returns from the three groups in the survey showed different patterns when compared with national characteristics, indicating that schools that offer Reading Recovery have different characteristics in comparison with schools nationwide. In the Reading Recovery principal returns there was an over-representation of large and urban schools and an under-representation of small, rural, and state-integrated schools, and schools with high Mäori enrolment in comparison with the national picture. The Reading Recovery teacher returns showed a similar pattern. Anand and Bennie (2005) note the 2003 Reading Recovery data suggests that high decile schools are more likely to

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[4]   This was estimated using the school list from the 2003 Ministry of Education Annual Monitoring of Reading Recovery dataset.

offer Reading Recovery. Although this trend was shown in the survey returns, it was not statistically significant.

In the non-Reading Recovery principal returns there was an over-representation of small and rural schools and an under-representation of mid-sized, urban, and contributing schools. There was also a trend for schools with high Mäori enrolment to be over-represented.

Some school characteristics are associated, for example low decile schools are more likely than high decile schools to have high Mäori and Pasifika enrolment. In the non-Reading Recovery returns there was a significant association between school type and size, with contributing schools being more likely than full primary schools to have large rolls. This association is also shown in the general population of schools, and in the schools in the 2003 Reading Recovery dataset, but was not shown in the Reading Recovery returns.

Interviews with national trainers and tutors

The national trainers and a sample of tutors were interviewed to gain their perspectives on the effectiveness of the Reading Recovery model and its implementation, and issues relating to its uptake in New Zealand schools. The national trainer/tutor interview can be found in Appendix E.

All three national Reading Recovery trainers were interviewed for this research. Advice was sought from the national trainers in the selection of seven tutors and one tutor in training to be interviewed. Criteria used for the selection of tutors included experience in working in areas with high Mäori and Pasifika enrolment, and geographic representation.

Focus groups

In order to gather a greater depth of response than could be gained from the survey questions the Reading Recovery tutors were invited to lead a focus group with the Reading Recovery teachers in one of their Continuing Contact sessions and to summarise the group response to the questions we developed for this purpose. The focus group questions can be found in Appendix F.

Twenty-seven tutors took responsibility for organising 30 focus groups. Twenty-seven of the focus groups were held with trained Reading Recovery teachers and three were with teachers in training. We asked those tutors responsible for more than one Continuing Contact group to choose the group with the greatest number of teachers working in schools with high Mäori or Pasifika enrolment.

We received information on the participants of 27 focus groups, indicating that at least 345 Reading Recovery teachers were involved in the focus groups. The majority of these were New Zealand/European or European (318) while 15 identified as Mäori, 1 as Pasifika, 1 as Asian, and 10 as other ethnicities. Just under half the teachers were from schools with more than 25 percent of their school roll identifying as Mäori or Pasifika, over one-quarter (26 percent) were from decile 1–2 schools, and almost half (46 percent) had full-time jobs in one school.

Case studies of effective Reading Recovery schools

An important aspect of this research was to capture the stories of principals, Reading Recovery teachers, and classroom teachers at schools with high Māori and Pasifika enrolment that were known for their effective implementation of Reading Recovery. We did this by analysing the implementation of Reading Recovery in a range of schools and presenting the themes emerging from these schools with effective Reading Recovery implementation. We collected records of the current reading levels of students who had been discontinued from Reading Recovery approximately one year prior to our visit, along with their reading levels on entry into, and exit from, Reading Recovery to establish the impact of Reading Recovery on student outcomes.

A purposeful sampling approach (Patton, 1990) was used in the selection of eight case study schools. The selection of schools was informed by tutor recommendation, information gained from responses to the national survey, and when applicable, from Education Review Office reports. The criteria for selecting schools included those with high Māori or Pasifika enrolment, and effective implementation of Reading Recovery as evaluated by tutors. Schools were also selected to ensure rural and urban, state and state-integrated, and schools representing a range of roll size were included.

The sample included three decile 1 schools, three decile 2 schools, one decile 3 school, and one decile 4 school. Two schools were located in Auckland, and one school was located in Christchurch, Wellington, and in the Gisborne, Tauranga, Rotorua, and Whangarei areas. Four of the schools were main urban, one was minor urban, and three were rural. Five were full primary and three were contributing schools. Six were state schools and one was state-integrated. Table 2 below provides information about the roll size and ethnicity of students at each school.

Table 2 **Roll size and ethnicity of the effective Reading Recovery schools**

School	Roll size	Ethnicity
1	250–300	Just under one-half New Zealand/European, approximately one-third Māori, approximately one-fifth Pasifika
2	300–350	Over one-third Pasifika, over one-third Māori, with the remaining New Zealand/European or Asian
3	100–150	Nearly all Māori
4	200–250	Nearly all Māori
5	100–150	Nearly all Māori
6	500+	Two-thirds Pasifika, just under one-fifth Māori, and the remaining New Zealand/European, Asian, or Other
7	250–300	Nearly all Pasifika
8	300–350	Approximately two-thirds New Zealand/European, approximately one-third Māori, and the remaining Pasifika or students of other ethnicities

Our intention was to interview at each school the principal or another member of the senior management team, one Reading Recovery teacher, one or two teachers of students currently

attending Reading Recovery, and one or two teachers of students who had attended Reading Recovery the previous year. The number of teachers we interviewed in each of these two last categories varied according to staff size and the cross-grouped classes at some schools.

We interviewed 10 Reading Recovery teachers, four of whom also taught a class from which students attended Reading Recovery. In addition we interviewed eight class teachers of Reading Recovery students, 13 teachers of students who had been discontinued from Reading Recovery the previous year, and one teacher who taught both students currently attending Reading Recovery and students who had been discontinued the previous year. We held one senior management interview at each school, which in three cases included two members of the senior management team who were interviewed together. These interviews included six principals, three assistant principals, and two deputy principals. We also carried out three informal interviews, which included one principal, one new entrant teacher, and the leader of a total immersion unit. The interview for the Reading Recovery teachers can be found in Appendix G, for class teachers of Reading Recovery students in Appendix H, for class teachers of students discontinued the previous year in Appendix I, and for the school principal, deputy principal, or assistant principal in Appendix J.

Pilot

We piloted the principal questionnaire with nine principals. As part of the pilot, discussions were held with four principals of schools not offering Reading Recovery and a literacy specialist in Mäori immersion education. We piloted the teacher questionnaire with nine Reading Recovery teachers. Following the pilot the principal questionnaire was divided into two surveys, one for schools offering Reading Recovery and one for schools not offering Reading Recovery.

The school staff interviews were piloted in two schools and the focus group questions were piloted with a Continuing Contact group in the Greater Wellington area.

Data analysis

Ministry of Education 2003 Reading Recovery dataset

We used general and generalised linear models (Venables & Ripley, 2002) fitted using R (R Development Core Team, 2003) to determine the relative impact of Reading Recovery on the performance of different groups of students by the time they had completed the intervention. The independent variables we used were gender, ethnicity, school type, location, authority, and percentage of Mäori students in the school. The dependent variables we used were the outcome (whether students had their series of lessons discontinued, or were referred to another intervention), the number of lessons received, and the scores. To give an overview of the possible effects of Reading Recovery for different groups of students within the intervention we also identified effect sizes for differences in group means.

Some qualifications need to be made about the representativeness of the definitions used in this study. The general labels used to describe groups in terms of ethnicity do not adequately reflect the diversity and complexity of these groups.[5] In the MOE dataset each student has been recorded as identifying with one ethnic group, even though in reality students may have identified with two or more of these groups. A related issue concerns the degree to which the groups these labels describe are homogeneous. Because of the relatively small number of students identifying with particular Pacific nations we grouped these students as Pasifika, and used the same rationale for the grouping of students as Asian or of other ethnicities. We acknowledge that these are not homogeneous groups and that there are variations in the cultures of the peoples categorised by these labels. This is also true of differences within particular groups. There is plenty of evidence, for example, that in the context of an implementation such as Reading Recovery, differences for Mäori children in terms of linguistic and literacy characteristics, to say nothing of familiarity with cultural practices, are likely to be more important than the overall label. These complexities could not be teased out from the national dataset or from the school data that were supplied and it is important to acknowledge that the interpretation of data in this study does not capture them. Because there were many similarities in the 2003 Reading Recovery national data for Mäori and Pasifika students, the terms Mäori and Pasifika are often used in tandem but it is important to avoid assumptions that the underlying reasons for similar patterns in the data were the same for these two groups.

Surveys

The information from the fixed-choice questions in the teacher and principal questionnaires was coded and entered into an SAS dataset. The open-ended questions were coded into common responses and also entered into the dataset. Frequency tables were produced for the teacher and principal data. To enable similarities and differences to be identified between schools we compared the data in relation to school decile,[6] proportion of Mäori enrolment, type, and rural or urban location. It was not possible to compare the data by proportion of Pasifika enrolment owing to the smaller numbers of Pasifika students in schools. On key questions we also compared principal and teacher views. Chi-square statistics from contingency tables were used to test for significance. Where statistical differences were found this is indicated in the text with phrases such as "were significantly", "more likely", and "less likely". We only reported statistically significant differences where the *p*-value was equal to or less than 0.05. This indicates that there is a 95 percent probability that the differences observed were not a chance association. In some cases relationships which were not statistically significant, but for which a pattern seemed evident, are indicated in the text. These are described as "trends".

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[5] For further discussion of the use of definitions for Mäori see Kukutai (2004) and for Pasifika see Anae, Coxton, Mara, Wendt-Samu, and Finau (2001).

[6] In most cases, owing to the similarity between decile and ethnicity profiles, school decile can be used as an indicator of the proportion of Mäori or Pasifika enrolment. That is, low decile schools were mostly those with high Mäori or Pasifika enrolment.

All respondents replied to most questions in the survey but some questions had missing data. When this missing data is a significant omission, this is reported in the text or in tables. In tables and text the numbers who responded are indicated as a proportion of the total number of respondents replying to each questionnaire. For this reason, and in some cases due to rounding, percentages do not always total to 100.

Interview and focus group responses

The notes from the interviews with the national trainers, tutors, and school staff were analysed for themes related to the research questions, as were the focus group summary notes.

Consent and ethics

The project plan and instruments went through the NZCER Ethics Committee screening processes. Introductory letters containing information about the nature of the research and consent forms were provided to all participants. Pseudonyms are used for school names.

Advisory group

Members of the advisory group were selected through consultation with the Ministry of Education. This group consisted of a representative from the Ministry of Education, a literacy expert at Learning Media Limited, and two teachers with both literacy expertise and a history of involvement in Reading Recovery. Members of the advisory group were consulted individually over the research methodology, and reviewed the research instruments and final report. NZCER peer reviewers fulfilled a similar role.

Overview of the report structure

This chapter is followed by an overview of the research literature. The presentation of the research findings begins with the views of the national trainers and tutors. This is followed by an analysis of the 2003 national Reading Recovery data collected by the Ministry of Education. Next we present the findings from the questionnaires. This is followed by an analysis of the themes emerging from the focus groups and then from the effective Reading Recovery schools selected as case studies. The final chapter of the report is devoted to a consideration of the research questions in light of the findings and to the conclusions and implications of the research.

2. Overview of the literature

Introduction

This literature overview focuses on themes drawn from the research questions. It presents the research literature on the effectiveness of Reading Recovery in general and for ESOL and Mäori students in particular, on the features of the Reading Recovery model, and on the school context of Reading Recovery. In selecting literature for this overview we focused on key areas and major contributions. These included meta-analyses and reviews of the research findings, and short-term and longitudinal evaluations of Reading Recovery. The themes and questions arising from the research literature and their relation to the emerging themes from this current study will be picked up in the discussion section at the end of this report.

The effectiveness of Reading Recovery

There is considerable research evidence demonstrating the success of Reading Recovery in lifting the performance of the lowest performing readers and writers. Reading Recovery has been found in meta-analyses and literature reviews to be robust, both in its consequences for student learning and in its replicability across different settings (Askew, Kaye, Frasier, Mobasher, Anderson, & Rodriguez 2003; D'Agostino & Murphy, 2004; Rhodes-Kline, 1997; Shanahan & Barr, 1995; Wasik & Slavin, 1993).

In their meta-analysis Elbaum, Vaughn, Hughes, and Moody (2000) found that the effects for students who were discontinued were substantial and reported that the mean weighted effect size for the Reading Recovery interventions was "significantly higher than that for the other matched interventions" (p. 615). Shanahan and Barr (1995) concluded that:

> Evidence firmly supports the conclusion that Reading Recovery does bring the learning of many children up to that of their average achieving peers. Thus, in answer to the question, 'Does Reading Recovery work?' we must respond in the affirmative… Although some initially low-achieving students will succeed without Reading Recovery, evidence indicated that many who would not succeed do so as a result of this intervention (p. 989).

While these findings suggest that Reading Recovery has a positive impact on student performance, Elbaum, Vaughn, Hughes, and Moody (2000), Rhodes-Kline (1997), and Shanahan and Barr (1995) also expressed concern that the claims made for Reading Recovery were over-

estimated in some United States studies. One reason for this was the North American tendency to include in research studies only students whose lessons had been discontinued because they no longer needed the additional support, rather than including a sample of *all* students who started Reading Recovery. Elbaum et al. were reluctant to make claims for the effectiveness of Reading Recovery because, while they found substantial effects for students identified as discontinued, they found little effect for those who did not reach the point at which their lessons were discontinued. They also argued that the results reported for students who were identified as not discontinued might be inflated due to the selective attrition of students from some treatment groups and the use of measures that may bias results in favour of Reading Recovery students. However as Schwartz argues, such claims cannot be easily evaluated without a close examination of the designs used in intervention research. It is possible that the minimal effect of Reading Recovery for the not discontinued students, found by Elbaum et al., may be partially explained by the claim of the North American Trainers Group (2002) that at least two of the studies in their meta-analysis that purported to include Reading Recovery did not deliver services meeting national Reading Recovery standards, that in one study the effects of three quite different one-to-one interventions were "inappropriately" averaged, and that there was a lack of consistency in the constructs (such as the definition of "at risk", the qualifications of instructors, and the outcome measures used) across the studies in the meta-analysis.

Rhodes-Kline (1997), and Shanahan and Barr (1995) also considered some of the claims made for the effectiveness of Reading Recovery might have been overstated because of a failure to construct equivalent comparison groups. Those in the Reading Recovery groups, they argued, were more likely to have lower initial scores than those in the comparison groups because of the tendency to construct comparison groups from students whose scores were not low enough to make them candidates for Reading Recovery. Shanahan and Barr (1995) observed that forming comparison groups in this way biases results in favour of Reading Recovery students because of the statistical phenomenon of regression toward the mean, whereby those with the lowest pre-test scores show a greater rate of improvement regardless of the amount of learning that has occurred. This would account for at least some of the reported Reading Recovery effects. In a meta-analysis of 36 Reading Recovery studies D'Agostino and Murphy (2004) found that Reading Recovery students scored significantly lower on all pre-test measures than comparison students, supporting the view that at least some of the reported Reading Recovery effects were the result of a selection by regression artefact.

To address the issues highlighted by Shanahan and Barr (1995) and Rhodes-Kline (1997), and to more accurately determine the effects of Reading Recovery on student performance, D'Agostino and Murphy selected a subset of more tightly controlled studies. In these 11 studies the pre-test scores of Reading Recovery students were *not* significantly different from those in the comparison groups. Both discontinued *and* non-discontinued students were included. The post-test scores of the Reading Recovery students whose lessons had been discontinued because they no longer needed the extra support were significantly higher than the comparison group students on all six Observation Survey measures and on standardised achievement tests. The combined post-test

scores of discontinued and non-discontinued Reading Recovery students were also significantly higher than the comparison group students on the six Observation Survey measures. Even if the pre-test and post-test effect sizes were reduced by the 10 percent that Lin (1980, cited in D'Agostino & Murphy, 2004) determined as the amount regression toward the mean accounted for in early primary grades, the majority of reported differences would not be diminished. These findings led D'Agostino and Murphy to conclude that the positive Reading Recovery effects reported in earlier studies were not just the result of a selection by regression artefact.

Recent research conducted by Schwartz (2005) also provides an example of a study designed to address the problem of unequal comparison groups through the random assignment of students. This study involved 74 at-risk first grade students from 14 states of the US who were randomly assigned to receive the intervention during the first or second half of the school year. Those assigned to receiving the intervention in the second half of the year formed the control group. Additional high-average and low-average comparison groups were formed from the same classrooms. Performance was measured using the Observation Survey tasks, two standardised reading measures,[7] and two phonemic awareness measures.[8] The results showed that by the mid-year transition point, the performance of the intervention group was significantly higher than the random control group, who had made slow progress in their classroom settings during the first half of the year. The performance of the intervention group came between that of the low-average and high-average classroom comparison groups, and was not significantly different from the high-average comparison group, demonstrating the effectiveness of Reading Recovery in reducing the difference between the at-risk students and their average peers.

An exception to the finding that Reading Recovery has a positive impact on the outcomes of discontinued students can be found in the New Zealand-based study of Chapman, Tunmer, and Prochnow (2001), which was not included in the meta-analyses and literature reviews described above. This longitudinal study involved the comparison of 26 discontinued Reading Recovery students with 20 similarly performing non-Reading Recovery children (the poor reader comparison group) and 80 children with average to above average performance (the normally

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[7] These included the Slosson Oral Reading Test – Revised (Nicholson, 1990, cited in Schwatz, 2005) and the Degrees of Reading Power Test (Touchstone Applied Science Associates, 2000, cited in Schwartz, 2005).

[8] These included the Phoneme Segmentation Test (Yopp, 1988, cited in Schwartz, 2005) and the Deletion Task which is a 10-item version of the Rosner (1975) task (as cited in Yopp, 1988, cited in Schwartz, 2005).

developing readers group) using a range of assessments.[9] Chapman et al. found that the Reading Recovery students in their study did not show greater reading performance by the end of Year 2 on standardised measures assessing word identification, vocabulary, spelling, and reading comprehension when compared with the poor reader comparison group. Nor did they show significant improvement relative to their poor reader counterparts in any of the phonological processing skills assessed in the study apart from phoneme segmentation.

The authors acknowledged that these results might appear surprising given those reported in international studies. Chapman et al. concluded that a possible reason for their different findings was that students in New Zealand Reading Recovery programmes were more likely to be encouraged to use sentence context cues to identify unfamiliar words than students in the US, because they considered that more emphasis was placed on whole language approaches in New Zealand. This finding is, however, in contrast to other New Zealand-based studies such as Smith (1994),[10] which found Reading Recovery to be effective in lifting New Zealand students' performance to average levels for their ages.

Schwartz (2005) provides a possible explanation for the differences in the findings of Chapman et al. and other studies. Schwartz suggests that the poor reader comparison group may in fact have been an average or low average group because the retrospective matching procedure excluded from the poor reader comparison group any low performing students who entered Reading

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[9] Information about the nature of the measures used, the points in the study at which these measures were administered, and full reference information for the authors cited can be found in Chapman et al. (2001). The measures included a phoneme deletion task developed by Calfee (1997), a sound matching task adapted from a task developed by Brian, Bradley, MacLean, and Crossland (1989), a phoneme segmentation task developed by Tunmer, Herrimann, and Nesdale (1998), the Letter Identification task from the Diagnostic Survey (Clay, 1985), a nonword repetition task developed by Snowling, Stackhouse, and Rack (1986), the Peabody Picture Vocabulary Test-Form M (Dunn & Dunn, 1981), an adapted version of a pseudoword decoding task developed by Richardson and Dibendetto (1985), an analogical transfer task devised by Greaney, Tunmer, and Chapman (1997), a contextual facilitation task designed by Tunmer and Chapman (1998), a combination of forms A, B, and C of the Ready to Read Word Test (Clay, 1985), the Burt Word Reading Test, New Zealand Revision (Gilmore et al., 1981), the Accuracy subtest of the Neale Analysis of Reading Ability-Revised (Neale, 1988), the Interactive Reading Assessment System Reading Comprehension subtest (Calfee & Calfee, 1981), and the Comprehension subtest (Form 1) of the Neale Analysis of Reading Ability – Revised (Neale, 1988). The students' teachers assessed reading book level. Assessments of pre-conventional and conventional spelling were also developed for this study.

[10] In the first phase of her study she analysed the entry and exit data from the annual returns to the Mana Reading Recovery Centre for the 1503 students who received Reading Recovery in the Mana area during 1986 to 1988. At the point at which these students' lessons were discontinued a measure of average instructional book level showed that statistically significant progress was made with the average book level being 19, equivalent to a 7.0–7.5 and above reading age. (Running Records were taken on materials used in classroom instruction. The instructional level was identified as being the highest level of text a student could read with 90 percent or above accuracy. The Reading Recovery levelling was used and benchmarked against the Ready to Read series (Clay & Watson, 1982 in Smith (1994).)

Recovery after the start of the second year. If the poor reader comparison group were actually an average/low average group then the similarity in performance of this group and the Reading Recovery group following the intervention would be expected.

There are other possible reasons for the findings of Chapman et al. differing from those of other studies. They used some different measures, a smaller number of teachers and schools, (the sample was drawn from 16 schools in one area, where other studies have drawn from a wider range), and the three groups being compared may have represented different school samples. Reading Recovery aims to improve reading skills to the level of a student's immediate peers. In this case, these would be from the same school. It may be that in this study some schools (with different socioeconomic mixes) were over-represented in one or more of the three groups, which would present a different comparison than if the groups were all drawn equally from the same schools.

Although there are some exceptions, such as the study of Chapman et al., the weight of evidence suggests that Reading Recovery is effective in lifting the performance of low performing students relative to their peers who do not receive the intervention. The findings of D'Agostino and Murphy, and Schwartz demonstrate that improvements in the performance of Reading Recovery students relative to similar low performing students are not just attributable to a selection by regression artefact and support the conclusion that Reading Recovery is an effective intervention. Reading Recovery students are shown to make the greatest gains on measures most closely aligned with the intervention, that is, measures from the Observation Survey, such as text reading levels. This is not surprising given the emphasis placed on the reading and writing of continuous texts in Reading Recovery. However, even when standardised measures external to Reading Recovery are considered, the weight of evidence supports the effectiveness of Reading Recovery in a wide range of educational contexts.

Performance of students following Reading Recovery

As well as addressing the impact of Reading Recovery on student performance, reviews of the literature and meta-analyses (Askew et al., 2003; D'Agostino & Murphy, 2004; Shanahan & Barr, 1995; Wasik & Slavin, 1993) have also focused on the extent to which Reading Recovery students maintain their gains relative to their peers in the years following Reading Recovery. A number of Australian and New Zealand-based studies not included in these literature reviews and analyses, have also addressed this question (Chapman et al., 2001; Rowe, 1997; Smith, 1994; Wade & Moore, 1997).

As part of their meta-analysis, D'Agostino and Murphy (2004) examined the results of studies that tracked Reading Recovery students to the second grade. On completion of Reading Recovery the students whose lessons had been discontinued because they no longer needed extra assistance had higher standardised test scores than their similarly needy, non-Reading Recovery counterparts. Their progress during Grade 2 was also greater than these students. By the end of

Grade 2 the gap between the test scores of the Reading Recovery students and their similarly needy counterparts had widened and the difference between their test scores and those of *regular* students had closed. D'Agostino and Murphy (2004) concluded from these results that Reading Recovery seemed to have a lasting effect on broad reading skills at least until the end of the second grade. These findings are consistent with the analysis of the empirical work on Reading Recovery conducted by Shanahan and Barr (1995) who concluded that in Grades 2 and 3 Reading Recovery students continued to achieve better on average than children of similar initial performance not involved in Reading Recovery. They found that when compared with *average* students the growth of Reading Recovery students tended to be slower in the second grade but similar in the third grade.

The findings of several studies suggest that Reading Recovery students not only maintain and improve their performance in the first couple of years after leaving Reading Recovery but in their later years as well (Askew et al., 2003; Rowe, 1997; Wade & Moore, 1997). Askew et al. (2003) collected longitudinal data on students who had met the criteria to have their Reading Recovery lessons discontinued from 45 randomly selected schools. One of the aims of the study was to determine whether students who reached average performance in Grade 1 continued to perform within average ranges in the following years until Grade 4. They found that at the end of Grade 4 a large majority of the Reading Recovery students had scores that were considered average or meeting the passing criteria on the reading measures used[11] and their class teachers considered them to be on the whole performing within the average ranges of their classrooms. The findings also indicated a general trend for relatively greater rates of post-Reading Recovery progress over time: the percentage of discontinued Reading Recovery students passing the state assessment reading subtest in the third grade was 72 percent, while 85 percent passed the test in the fourth grade.

Rowe (1997) conducted a large-scale longitudinal study over a 4-year period (1988–1991) to provide information on factors affecting students' literacy development, and in particular, reading performance. The study involved a sample of 5000 school entry to Grade 6 students and their teachers from 100 schools in Victoria, Australia. The study found that the variation in the reading comprehension and Reading Profile Band test scores of the 147 students who had been involved in Reading Recovery were smaller than those of their non-Reading Recovery counterparts suggesting that Reading Recovery was meeting its intended purpose for those involved. One of the findings of this study was the effectiveness of Reading Recovery for the long-term progress of students. By Grades 5 and 6 the Reading Recovery students in the study, whose scores were clustered at the low range when entering Reading Recovery, had the same range of scores as the general school population, and fewer low scores.

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[11] These included the Gates-MacGinitie Reading Test (MacGinitie & MacGinitie, 1989, cited in Askew et al., 2003) and state assessment measures.

Wade and Moore (1997) compared the performance of 56 Years 5 and 6 ex-Reading Recovery students from seven New South Wales and Victoria, Australia schools with 56 non-Reading Recovery students of a similar age and with similar primary school experiences. The control group was made up of students whom school records showed were mainly average or below average readers for their class, but more able than the Reading Recovery students in Year 1. The study found that the ex-Reading Recovery students had significantly higher reading accuracy and comprehension on the Neale Analysis of Reading Ability (1988).[12] These students were significantly more likely to use phonic and syllable decoding strategies, and the strategies of re-reading and reading on than the control group students, and were significantly less likely to misread or guess unknown words. They also scored significantly higher in assessments of writing quality and accuracy. The authors acknowledged that, although care was taken to match the Reading Recovery and non-Reading Recovery students, there may have been other intervening variables in students' experiences, but concluded that the pattern identified by these findings across seven schools was unlikely to be accidental.

The findings of the New Zealand-based study of Smith (1994) also suggest that the effects of Reading Recovery are maintained. Smith found that the reading ages of the 74 students in the second phase of her study progressed at each of the three years after their lessons had been discontinued and that the majority were reading at or beyond their chronological age at each of the three checkpoints. While students' ability to read words in isolation as measured by the Burt Word Reading Test – New Zealand Revision (Gilmore et al., 1981) continued to improve, the rate of this improvement slowed for some students over time. At the third checkpoint only one-quarter of the total group were reading isolated words at or above their chronological ages. She suggested a range of possible reasons for the differences in students' ability to read words in continuous text and in isolation, including the artefact of different norming procedures, the nature of Reading Recovery teaching, or the nature of subsequent classroom instruction.

Chapman et al. (2001) found that the discontinued Reading Recovery students in their study (who were found to have made little progress relative to their poor reader comparison group while on Reading Recovery) performed at approximately one year below age-appropriate levels on the Burt Word Reading Test (Gilmore et al., 1981) and on the other standardised measures of reading performance one year after the completion of Reading Recovery.

The need for continued support for some students

Although there is evidence to suggest that Reading Recovery students maintain their gains after their series of lessons has been discontinued, some argue that Reading Recovery should not be held accountable for the long-term progress of all students. D'Agostino and Murphy (2004)

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[12] The Neale Analysis of Reading Ability (1988, cited in Wade & Moore, 1997) contains six graded narratives and associated comprehension questions. It includes Word Lists extracted from the passages for assessment of accuracy or word recognition, along with four supplementary diagnostic tests.

argued that, while Reading Recovery seemed to have a lasting effect at least until the end of the second grade, expecting *all* Reading Recovery students to remain at average class achievement levels without the availability of additional support might be unrealistic. This is based on the suggestion that the most at-risk students have chronic rather than acute problems, which require ongoing interventions beyond one year (Campbell & Ramey 1994 and Pressley, Wharton-McDonald, & Hampston, 1998, cited in D'Agostino & Murphy, 2004). D'Agostino and Murphy raise the question of whether Reading Recovery, a programme designed for first grade students, should "shoulder the burden" for continued intervention across school years. They suggest that other literacy interventions designed to meet the needs of older students be used to meet the needs of chronically low performing students in the years following Reading Recovery.

Another reason for questioning the expectation that Reading Recovery be held accountable for the ongoing progress of all students relates to factors outside the intervention's sphere of influence in subsequent years, such as illness, absenteeism, home and community circumstances, and inadequate classroom instruction. The impact of these factors on students' rates of progress during and after Reading Recovery is addressed in more detail later in this overview.

Strategies taught in Reading Recovery

As highlighted in a number of the studies described above there has been debate in the research literature about the reading strategies taught in Reading Recovery, and in particular on the emphasis placed on phonemic awareness and phonological processing skills. The question of whether phonemic awareness and phonological processing skills are taught in Reading Recovery was addressed in an overview of the research literature conducted by Askew et al. (2003). The authors concluded that Reading Recovery teachers did teach students about letters, sounds, and words, citing in particular the work of Adams (1990, cited in Askew et al., 2003) and Stahl, Stahl, and McKenna (under review at the time, in Askew et al., 2003). A report on Reading Recovery in New Zealand conducted by the Office for Standards in Education (1993) confirmed this finding for the New Zealand context. The authors concluded that:

> …both meaning and the full range of analytic and decoding strategies, including phonic cueing, are carefully taught. In addition, support is provided in a wide range of further language skills, each carefully integrated with the work of reading. Writing, spelling, speaking and listening all feature prominently in every lesson (p. 3).

The effectiveness of word-level skills instruction in Reading Recovery was addressed in the literature review of Shanahan and Barr (1995) who found that that many students leave Reading Recovery with "well-developed reading strategies, including phonemic awareness and knowledge of spelling" (p. 989). The findings of D'Agostino and Murphy (2004) were consistent with the conclusions drawn by Shanahan and Barr. D'Agostino and Murphy found that discontinued Reading Recovery students reached the same achievement levels as regular students on the Observation Survey measures and in fact surpassed them on the Hearing and Recording Sounds in

Words, Writing Vocabulary, and Text Reading Level tasks. They also had larger differences between their pre- and post-scores in the Observation Survey than the regular students did. These findings suggest that discontinued Reading Recovery students left the intervention with well-developed phonemic awareness skills and that Reading Recovery was effective in lifting these skills. Non-discontinued Reading Recovery students were also found to have greater differences between their pre- and post-scores differences on all six Observation Survey measures than their similarly needy counterparts, and in some cases more than regular students. On standardised tests external to Reading Recovery, discontinued students scored significantly lower than regular students both before and after Reading Recovery, but Reading Recovery was effective in reducing the differences in the initial performance of the Reading Recovery and regular students.

The findings of some studies however have led the authors to recommend that more emphasis be placed on the teaching of phonological processing skills in Reading Recovery (Chapman, et al., 2001, Fletcher-Flinn, White, & Nicholson, 1998; Iversen & Tunmer, 1993). Iversen and Tunmer, (1993) conducted a study involving three groups of students. One received regular Reading Recovery lessons, one received Reading Recovery lessons with additional word level analysis activities, and one was a control group. The authors found that both the regular Reading Recovery group and the modified Reading Recovery group outperformed the control group on all word level measures. However, the students in the phonics-enhanced group needed fewer lessons to be discontinued. The authors recommended that the explicit teaching of phonics and phonemic awareness be added to Reading Recovery lessons. A report of the North American Trainers Group (2002) argued however that Iversen and Tunmer were unaware of changes that had already occurred in Reading Recovery instructional approaches and that the modifications made to the phonics-enhanced group had in fact already been included in Reading Recovery.

Iversen and Tunmer argued that as well as increasing explicit phonics instruction, more refined measures of phonological processing were needed to more accurately measure the metalinguistic areas of phonological awareness and phonological recoding. Such refined measures were used in a small study of 13 Reading Recovery students conducted by Fletcher-Flinn, White, and Nicholson (1998).[13] The authors of this study found that after an average of 50 lessons the children had made considerable gains on all literacy and language measures. They found one of the largest effect sizes related to students' improvement in phonemic awareness. More than half of the students in the study reached a level comparable with average progress children of the same age, but they found few gains on phonological decoding. At the time of the study most children were still reading below the level of their age cohort. However at the time of the study only two of the children had been discontinued. The recommended number of Reading Recovery lessons is 50 to 100 and, as the authors acknowledged, had the students received the number of lessons required

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[13] These included the Roper/Sneider Phonemic Awareness Test (Roper-Schneider, 1984, cited in Fletcher-Flinn et al., 1998) and the Bryant Test of Basic Decoding Skills (Bryant, 1975, cited in Fletcher-Flinn et al., 1998).

for them to reach the point of no longer needing the extra support provided by Reading Recovery, the results may have been different.

Two studies focusing on successfully discontinued students and using more refined measures of phonological processing as recommended by Iversen and Tunmer are a small-scale study by Stahl, Stahl, and McKenna (2003) and the study of Chapman et al. discussed earlier. Stahl, Stahl, and McKenna (2003) focused specifically on the development of phonological awareness and phonological decoding in 12 successfully discontinued Reading Recovery students. The performance of these students was compared with a control group consisting of students who qualified for Reading Recovery and were awaiting places. Two Observation Survey assessments —Letter Identification, and Hearing and Recording Sounds in Words—were used in conjunction with other phonics measures.[14] The Reading Recovery group performed significantly better than the control group on both the Reading Recovery measures and on the measures of phonological awareness. They were also found to perform as well as a group of average achieving first graders on the measure of orthographic processing.

Contrary to these findings are those of Chapman et al. who found that the Reading Recovery and poor reader comparison groups had deficiencies in phonological processing skills during the year preceding Reading Recovery, that these deficiencies were not eliminated or reduced by Reading Recovery, and that success in reading achievement both in Reading Recovery, and subsequently was closely related to phonological processing skills. Chapman et al. (2001) argue that the main reason for the lack of student progress during and following Reading Recovery was that students' need of instruction in word decoding strategies was not sufficiently met during or after Reading Recovery.

Smith also addressed this question in her study. She concluded that while there was no clear relationship between word-reading score at the point students' lessons were discontinued and their subsequent ability to analyse words in isolation, it might be appropriate to bring students' ability to analyse words in isolation to a level consistent with their text reading age before discontinuing their lessons. She also observed that some students might have benefited from further in-class instruction on word level analysis at the multisyllabic word level, after finishing Reading Recovery having reached average levels of achievement. Smith explained that such words start to occur at the 7.06–8 equivalent age band on the Burt test and the average text reading age of the students in her study when discontinued was 7 years.

Smith argued however that as the primary purpose of reading instruction is for students to read continuous text, and as the majority of the students in her study were able to read at or above their chronological age at each of the three year checkpoints after Reading Recovery they had developed enough of an understanding of how words work to use in conjunction with their other strategies to reach this goal.

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[14] These included the Yopp-Singer Test of Phoneme Segmentation (Yopp, 1988, cited in Stahl, Stahl, & McKenna, 2003) and a pseudoword reading measure developed for the study.

This interpretation is based on the inter-relationship between the use of different strategies and is supported by the findings of Tunmer, Chapman, and Prochnow (2002) in a recent longitudinal study that involved monitoring the literacy development of 152 students from school entry to the middle of Year 3. They found that the ability to use letter-sound patterns and to use sentence context made the strongest independent contributions to variance in early reading performance and that the development of each of these abilities seemed to influence the development of the other.

The importance of interventions that offer a comprehensive model of reading as opposed to those that address only a few components of the reading process is also supported in the study of Wasik and Slavin (1993). They found that the one-to-one tutoring interventions that included in their instruction several components of reading and had comprehensive approaches to teaching reading had a greater impact than those that focused only on specific skills relating to the reading process.

The effectiveness of Reading Recovery and student characteristics

Not all students are successfully discontinued from Reading Recovery, and reviews of the research literature clearly indicate that it is not effective for all low achieving students. Shanahan and Barr (1995) for example concluded that 10–30 percent cannot be discontinued, even after 60 lessons. Some students also make greater, quicker, or more sustained progress than others. While many studies have been conducted on the effectiveness of Reading Recovery by comparing the outcomes of students in the programme with those uninvolved in it, less research is available on the comparable gains made by students within the programme.

Research suggests there is little difference in Reading Recovery outcomes in relation to student characteristics (Ashdown & Simic 2000; Askew et al., 2003; Clay & Watson, 1982; Hobsbaum, 1995; McCormack, 1990; Smith, 1994; Yukish & Fraas, 2003) but that in some cases the amount of time spent in Reading Recovery can affect outcomes (McCormack, 1990).

The effectiveness of Reading Recovery for ESOL students

Findings in the research literature indicate that students with a first language other than English are sometimes excluded from Reading Recovery tutoring. In a large-scale analysis of first grade scores on the Observation Survey collated by the national Data Evaluation Centre at The Ohio State University, Ashdown and Simic (2000) found that native English speakers were over-represented in Reading Recovery as compared to the comparison group. The comparison group comprised children initially diagnosed as "at risk" but not served in Reading Recovery. They found that the lowest performing non-native speakers with limited English proficiency were not always selected for Reading Recovery tutoring. They conjectured that schools were either delaying the entry of these students into Reading Recovery on the belief that their English-

speaking skills needed further development prior to entry, or excluding these students because of a belief that their progress would be slow.

The belief that students with a first language other than English are less likely to be successfully discontinued from Reading Recovery is not borne out by British (Hobsbaum, 1995), American (Ashdown & Simic 2000; Yukish & Fraas, 2003), or New Zealand (Smith, 1994) research findings. In an analysis of National US data on the 25,601 children served by Reading Recovery over a 6-year period, Ashdown and Simic (2000) found that there were no significant differences at the point of exit between the native English speakers and non-native speakers with limited English proficiency who were discontinued. Children fluent in a non-English first language were significantly more likely to be successfully discontinued than children who had limited proficiency in a non-English first language. They were also significantly more likely to be successfully discontinued than children with English as a first language who had limited proficiency. Having English as a first language can therefore be seen to have less impact on Reading Recovery outcomes than language proficiency regardless of what that first language might be. Ashdown and Simic (2000) also found that the achievement gap between native and non-native English speakers was smaller among those who had attended Reading Recovery than those who had not.

In an English study involving the analysis of national Reading Recovery data from 1990 to 1993 Hobsbaum (1995) also found that the bilingual Reading Recovery children in the sample were just as likely to be successfully discontinued as the monolingual, English-speaking students. On entry to Reading Recovery the bilingual Reading Recovery students scored significantly lower than their monolingual counterparts on all of the Observation Survey sub-tests but at the completion there were no significant differences between them. The only Observation Survey outcome for which multiple regressions showed language had a significant effect was the Burt Word Reading Test. Hobsbaum did find differences in the numbers of successfully discontinued bilingual students by age. Because children in England may start school from 4 years of age, there are two distinct entry points to Reading Recovery. The first is in Year 1, at age 5.9–5.11 for children who have been at school at least one year; and the second is in Year 2, at age 6.0–6.11. Hobsbaum found that the bilingual children who entered Reading Recovery in Year 1 were less likely to be successfully discontinued from Reading Recovery than those who entered in Year 2 but was unable to establish a reason for this. One hypothesis was related to fluency and the idea that a certain level of English is needed in order to benefit from Reading Recovery. However this proved not to be the case as the fluency-stage ratings given to Years 1 and 2 Reading Recovery students by their Reading Recovery teachers showed an even distribution across both year groups. Hobsbaum suggests that this may have been the result of teachers' higher expectations of Year 2 students.

A smaller-scale study compared the performance of bilingual Old Order Amish Reading Recovery children and other Reading Recovery children in the East Holmes Local School District (EHLSD) in the USA (Yukish & Fraas, 2003). This study found that the discontinued Reading Recovery Amish children performed on the Observation Survey sub-tests within the average band

of both Amish and non-Amish children who had not attended Reading Recovery, and exceeded their Amish counterparts in the Concepts about Print sub-test. They were significantly more likely to be successfully discontinued from Reading Recovery than their non-Amish counterparts in the EHLSD. The average time Amish children spent in Reading Recovery before being discontinued was comparable to all Reading Recovery students outside the EHLSD despite their isolation from the wider community, and despite having English as a second language. Results in the Observation Survey were comparable across both groups with discontinued Amish children having higher mean Concepts about Print scores from the Observation Survey but lower average text reading levels than discontinued non-Amish children in the EHLSD.

The findings of Smith's (1994) study also suggest that children with a first language other than English are likely to have similar Reading Recovery outcomes as those for whom English is a first language. She found that there was no significant difference in the reading ages of the matched pairs of ESOL and non-ESOL students in her study in each of the three years after their lessons were discontinued. The majority of both groups were reading at or beyond their chronological age at each of the three checkpoints.

The effectiveness of Reading Recovery for Mäori students

The findings of two early New Zealand studies—Clay and Watson (1982), and McCormack (1990)—suggest that Mäori students had similar Reading Recovery outcomes as their non-Mäori counterparts when provided with a complete and uninterrupted series of lessons. Clay and Watson's (1982) research of 64 Standards 2 and 3 (Years 4 and 5) students who had been in Reading Recovery in 1978 included a sample of Mäori and Pasifika students who were matched using Reading Recovery entry levels with New Zealand European students. Some of these students did not receive a full series of lessons because they entered partway through the year, in some cases as late as term 3. The study found that comparable gains were made in Reading Recovery regardless of ethnicity as measured by mean book level. Three years on the students' mean achievement ages as measured by word reading and spelling tests[15] showed that the majority of students in the total sample, and in the ethnic sub-groups, were performing at or above average class levels. Although the Mäori students in the study who had received a full series of Reading Recovery lessons were performing at satisfactory levels for their class three years after Reading Recovery, their scores were lower than those of Reading Recovery students of other ethnicities.

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[15]   These included the Burt Word Reading Test (Gilmore et al., 1981, cited in Clay & Watson, 1982), the Schonell Word Reading Vocabulary Test (a graded word-reading test based on a "look and say" approach) developed by Schonell & Schonell (1950, cited in Clay & Watson, 1982), and the Peters Word Spelling Test (made up of three graded passages which students write as the text is read to them phrase by phrase, cited in Clay & Watson, 1982) developed by Peters (1979).

In a small, unpublished study McCormack (1990) compared 12 Mäori and 20 non-Mäori Standard 2 (Year 4) ex-Reading Recovery children from six Christchurch schools. Both groups had identical book levels on entering the programme, and their entry levels were very low when compared with the students in the Clay and Watson study. This study included two children who had not been discontinued from the programme: one Mäori and one non-Mäori. McCormack found that the mean book levels and Burt Word Reading Test scores for the two groups of students were almost identical on exit back into the classroom. This pattern was continued two years later with both groups attaining almost identical results on the assessment measures used.[16] The main difference was that the group of Mäori students stayed in the programme longer (31.6 weeks vs. 27.8 weeks) to attain these similar results.

The effectiveness of Reading Recovery when offered in languages other than English

Reading Recovery is offered in a range of languages including English, French, and Spanish. Perhaps the most well known study focusing specifically on the results of delivering Reading Recovery in a language other than English in a predominantly English-speaking nation is a study on Descubriendo La Lectura: An early intervention literacy programme in Spanish (Escamilla 1994, in Escamilla, 1997). The study involved 180 Grade 1 USA students receiving literacy instruction in Spanish. It compared the performance of three groups of students: a Descubriendo La Lectura group of 23 students, a control group of 23 students needing the programme but not receiving it, and a comparison group of the remaining 134 children in the sample. By the end of the first grade the scores of the Descubriendo La Lectura students were significantly higher than those of the comparison group, in the Spanish Observation Survey in all but one of the tasks, and were significantly higher than the scores of the control group.

Gains made by students in Descubriendo La Lectura were also comparable to their English-speaking counterparts in Reading Recovery. National USA Reading Recovery evaluation data summarised by Askew et al. (2003) indicates that students in Descrubriendo La Lectura achieved similar results over the 1996–1997 school year as those served by the English version of the programme. Over the 1996–1997 school year 2951 children were served in 50 sites across nine states. When those who moved during the programme or did not have time to complete the programme were counted, 58 percent met the criteria for having their lessons discontinued, and when they were not counted, 81 percent met these criteria. These results are similar to results for the 463,249 children who entered Reading Recovery in English from 1985 to 1997. When those who moved partway through Reading Recovery, or did not have time to complete it were counted, 60 percent met the criteria for having their lessons discontinued. When they were not counted, 81 percent met these criteria.

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[16] These included the Burt Word Reading Test (Gilmore et al., 1981, cited in McCormack, 1990), the Holdaway Reading Inventory (Holdaway, 1980, cited in McCormack, 1990), the Peters Spelling Test (Peters, 1979, cited in McCormack, 1990), teachers' achievement ratings, and a Cloze Reading Test.

A consideration of context: The relationship between Reading Recovery and the school

Surprisingly few international studies focus on factors external to Reading Recovery which impact on the achievement of the intervention's aims, such as the actions of the class teacher, the school context of Reading Recovery, or the impact of parent involvement in Reading Recovery.

Classroom instruction of Reading Recovery students

Smith (1987 and 1988 in Smith, 1994) found that issues relating to post-Reading Recovery classroom instruction were the strongest influence on students' subsequent progress. The factors of classroom instruction found to have a negative impact on students' post-Reading Recovery progress drawn from Smith's findings are listed in the Office for Standards in Education report (1993). These included frequent changes of teacher, no classroom instructional reading, no opportunity to read books at an appropriate level independently, and instruction based on texts that were either too easy or too difficult.

Problems resulting from differences in Reading Recovery teacher and class teacher assessments, expectations, and instruction of Reading Recovery students have also been highlighted in several other New-Zealand-based studies (Chapman et al., 2001; Clay & Watson, 1982; Glynn, Crooks, Bethune, Ballard & Smith, 1989; McCormack, 1990).

Chapman et al. (2001) found that the mean book level reported by Reading Recovery teachers for discontinuing students was over seven levels higher than that reported by their class teachers, and that independent measures of reading performance supported the classroom teachers' assessments. They argued that systematic bias might have infiltrated the assessment process due to the vested interest of Reading Recovery teachers. Glynn et al. (1989) also found discrepancies between the assessments and expectations of Reading Recovery and class teachers. However this earlier study found that the class teachers tended to place students on reading levels, and in reading groups, *below* their ability and did not provide them with enough challenge in the classroom once discontinued from Reading Recovery. McCormack (1990) also recommended that teachers provide more challenge to discontinued Reading Recovery students. Clay and Watson (1982) found that for some of the students in their study whose performance was below the class average in Standard 2 or 3, "promotion had been unduly rapid" (p. 2). The finding that students are not always correctly placed once their lessons have been discontinued is also consistent with findings in the international literature (Shanahan & Barr, 1995).

Glynn et al. suggested that the placement of students at the incorrect reading level following the decision that Reading Recovery is no longer needed may account for the initial lack of progress that many of the students in their study experienced for several months after their lessons were discontinued and a similar interpretation is made by Shanahan and Barr (1995).

These studies suggest a number of reasons for this incorrect placement of students. One relates to a lack of monitoring. Clay and Watson, Glynn et al., and McCormack all found that not enough careful monitoring of Reading Recovery students was occurring on their return to the classroom.

Another explanation was a lack of communication between the Reading Recovery teacher and the class teacher. Shanahan and Barr concluded that Reading Recovery has little impact on students' classroom experiences. An example from one of the studies they reviewed was the finding of Glynn et al. that many of the classroom teachers in their study reported that there had been little communication between them and the Reading Recovery teacher about the children in their classes attending the programme.

There is agreement in the research literature on the need to address issues of class literacy instruction while students are on Reading Recovery and once they are discontinued (Clay & Watson 1982; Glynn et al., 1989; Robinson, 1989; Shanahan & Barr, 1995). Both Clay and Watson and Glynn et al. emphasise the need for greater alignment between Reading Recovery and class programmes. However there is little information on what effective classroom practice might look like in terms of providing support and challenge to current and discontinued Reading Recovery students. The need for research into the aspects of classroom instruction that reinforce the progress of children while in Reading Recovery and on leaving it, is emphasised in the research literature (Robinson, 1989; Shanahan & Barr, 1995; Smith, 1994).

The findings of Wasik and Slavin (1993) suggest that consistency across one-to-one interventions and class settings is important. The only intervention designed to integrate completely with regular classroom instruction of the five one-to-one tutorial systems analysed in their study had the largest effect size. As they pointed out if a Reading Recovery approach to instruction was used in the classroom as well as during tutoring, Reading Recovery might still have greater effects because its model of reading and delivery of instruction may be found to be more effective. They highlighted the need for empirical data to be collected to determine the importance of consistency across settings.

Center, Freeman, and Robertson (2001) recently addressed this need by investigating the impact of differences in the class literacy programme on Reading Recovery student outcomes. They found that by the end of their second year at school Reading Recovery students in classrooms that included explicit instruction in phonological awareness outperformed (on standardised reading measures, and measures of phonological recoding, reading connected text, and invented spelling) students in classes that did not. These students spent significantly less time in Reading Recovery before being discontinued, were less likely to be referred, and the process of having their lessons discontinued was more likely to be considered successful.

The relationship between Reading Recovery and the wider school context

While a relatively small proportion of the Reading Recovery research has addressed the relationship between Reading Recovery and classroom instruction, there is even less on the place of Reading Recovery in a whole-school context. Robinson (1989) argues that the introduction of Reading Recovery into schools typically involves establishing an infrastructure to support the innovation rather than analysing the ways in which schooling itself may contribute to the problem of early reading difficulties. She argues that by focusing exclusively on the child, without also critically examining the context of the child's learning, the Reading Recovery model may in fact perpetuate the need for Reading Recovery in some schools. She raises the possibility of including a systemic focus in the programme. This might, for example, involve gathering data on experiences common to those identified as needing Reading Recovery in the first place. Such an examination might open the way for change in junior school instruction, which might in turn result in a reduction of early reading difficulties. She illustrates the potential of this possibility by citing a finding from one of her New Zealand case study schools in which the principal and senior teacher of junior classes considered that the improved interface between Reading Recovery and general classroom programmes had reduced the need for Reading Recovery.

In a consideration of the relationship between Reading Recovery and the school Cazden (1999) identified two main causes for the problem of Reading Recovery teachers operating in isolation from other teachers in United States schools. One was the "fault lines" among categories of teachers created by the education system as a whole whereby teachers trained in Reading Recovery tended to be those also involved in other interventions involving the withdrawal of children from the classroom. This meant they were less likely to have opportunities to share their expertise with classroom teachers. Cazden (1999) considered this to be less likely in the New Zealand context where Reading Recovery teachers usually had a class of their own.[17] The second cause of the Reading Recovery-school divide in the US identified by Cazden (1999) was that Reading Recovery training in the US had not provided Reading Recovery teachers with a "mechanism" for helping classroom teachers change their instructional practices in the classroom.

Partnerships with parents

Little research is available on the degree of communication with, and involvement of, parents while their children are in Reading Recovery, and the impact this has on student progress. The few New Zealand-based studies that address this issue suggest that there has in the past been relatively little home-school partnership surrounding Reading Recovery. Glynn et al. (1989) found that contrary to Clay's (1985) recommendation that schools and families work together to develop follow-up activities, this was not happening in any of the nine schools in their study, and

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[17] The findings of the research presented here indicate that this is no longer the case. Only 32 percent of the Reading Recovery teachers who responded to the survey reported having a class of their own.

that with one exception the interviews "revealed major gaps between schools and parents" (p. 130). They found that parents were enthusiastic about supporting their child's reading at home, but in the absence of school support they did not always use strategies aligned with those used in Reading Recovery when hearing their children read. Half of the parents indicated that they would like better communication and more information about how they could help their children at home. McNaughton, Parr, Timperley, and Robinson, (1992) had similar findings in a study on the practices surrounding the sending home of school readers with children in their first year of school. They found that parents who did not have prior knowledge about teaching practices or access to this knowledge through other family members developed their own practices, which did not always match those of the school.

The little research available on the impact of establishing close links with parents suggests that attaining parental support is an important factor in student performance at least in terms of ensuring regular attendance (Clay & Watson, 1982, in Robinson, 1989). The need for investigations into the effects of establishing close links between the school and parents around Reading Recovery is identified in the research literature (Glynn et al., 1989; Shanahan & Barr, 1995).

The impact of missed Reading Recovery lessons

The research literature suggests that another factor external to the Reading Recovery model that has a significant impact on student performance is the number of missed Reading Recovery lessons that result from both student and teacher absence (Ashdown & Simic, 1998; Hobsbaum, 1995).

On the basis that the theoretical and operational framework for the success of Reading Recovery is the *daily* delivery of lessons, Ashdown and Simic examined the relationship between missed Reading Recovery lessons and student performance. This study involved the 3787 children who received a full Reading Recovery programme during 1995–1996 at sites linked with the New York University Reading Recovery Project and for whom there was complete attendance data available. The findings of this study indicated that the number of lessons received and the number of lessons missed contribute significantly in predicting failure in Reading Recovery as children who had missed more lessons had a higher probability of failure regardless of how long they were in the programme. Ashdown and Simic concluded that absenteeism from Reading Recovery instruction has a significant, negative impact on success in the intervention and on final text level scores.

The most common reasons for missed lessons were school- rather than student-related, with school functions accounting for 46 percent of missed lessons, and teacher absence accounting for 36 percent. Family-related factors of illness, vacations, and family-related situations accounted for 43 percent of missed lessons. The study found that although family related situations were relatively infrequently cited reasons for missed lessons, they had the greatest impact on the extent of absences and the indicators of success.

In an analysis of nationwide Reading Recovery data in England from 1990–1993 Hobsbaum (1995) had similar findings. Children who were not successfully discontinued from Reading Recovery were found to have more absences. The number of Reading Recovery teacher absences due to ill health was half as many as absences due to other school requirements such as relieving in other classes, attending courses, or assisting with national testing.

The optimal point of entry into Reading Recovery

The question of the point at which students should enter Reading Recovery, in terms of their likelihood of making optimal progress is a theme that emerges repeatedly in the research literature (Clay & Tuck, 1991; Glynn et al., 1989; McCormack, 1990; Shanahan & Barr, 1995). This raises the inter-linking questions of both age and stage.

It is recommended practice to offer Reading Recovery to students considered to be making slow progress on completion of their first year of instruction as near as possible to their 6th birthday and preferably by 6 years, 3 months. The *Report of the Literacy Taskforce* (Ministry of Education, 1999a), suggests more flexibility in the stage at which Reading Recovery is delivered to reflect the range in student language acquisition. Glynn et al. (1989) also expressed this view. They recommended relaxing the entry criteria for some children who may benefit more from the programme at an older age such as some children with delayed language development or those who have had limited experience of English language prior to age 6. McCormack (1990) makes a similar recommendation in response to her finding that many of the children in her study were "clearly not ready to begin at age 6.0" (p. 33).

However, as McNaughton, Phillips, and MacDonald (2002, 2004) demonstrate, the concept of readiness can inhibit the progress of groups of students for whom teachers have low expectations. They describe how students who are started and kept on low level texts because of assumptions about their lack of readiness for more difficult texts, then miss out on the exposure to the very texts which are needed to assist their progress, resulting in a type of Matthew Effect (Stanovich, 1986). McNaughton et al. (2000) argue that this might help explain some of the differences in the performance of Mäori and Pasifika students and their New Zealand European counterparts. It is likely that delaying the entry into Reading Recovery of students considered "not ready" would continue to perpetuate such a Matthew Effect. An alternative approach is to accelerate the progress of students in their first year of instruction. In an Auckland study of the combined effects on students' achievement of providing professional development to early childhood teachers and to teachers of students in their first year at school Phillips, McNaughton, and MacDonald (2002) found that it is possible to "pick up the pace of teaching and learning" for students in decile 1 schools. Following the intervention the distribution curve in the project schools had shifted towards the expected distribution on a range of measures and at the age of 6 a greater number of students were performing within the expected range for their age.

Underlying the desire to delay the entry into Reading Recovery of students with relatively low levels of literacy performance is the assumption that there is a stage at which optimal progress might be made in Reading Recovery. However there is no research evidence to suggest that delaying the entry of such students would ensure better rates of progress. A study of different sub-groups in the 1988 New Zealand Reading Recovery entry population (Clay & Tuck, 1991) led the authors to conclude that it would be ill advised to establish criterion for exclusion according to levels of initial performance. This study focused on 140 referred children matched with 140 discontinued children, and 140 children who were continuing the programme. Clay and Tuck concluded that, although there was a relationship between entry levels and the probability of being discontinued or referred, the variability among individual children suggests that it is not possible to predict which children to exclude from Reading Recovery lessons. This is consistent with analyses of the national MOE Reading Recovery data (Anand & Bennie, 2004, 2005).

Student access to Reading Recovery

There is evidence to suggest that not all those who need Reading Recovery have access to it (Anand & Bennie, 2004). Research on schools in the central North Island sub-region conducted by Aitken and Greaney (2000) indicated that schools have more children who need Reading Recovery than the Reading Recovery places they provide. The schools in the region that provided Reading Recovery were catering for 643 pupils, but principals in these schools indicated that in their view as many as 984 students could benefit from Reading Recovery if places were available.

It has been suggested that because Reading Recovery is used with the lowest performing group of children compared with their cohort by *school* rather than on a national basis, it may not effectively target those most in need (Ministry of Education 1999a, 1999b). Glynn et al. (1989) observed that in schools with few low performing readers, students who are not in the bottom 20 percent of the population may have access to Reading Recovery, while in those schools with high numbers of under-performing readers, some children in the bottom 10 to 20 percent of the national population of 6-year-old readers may be missing out. They illustrate the extent of this problem: at one school in their study the highest Reading Recovery entry level was 2, while at another, the *lowest* was 8. Both Glynn et al. (1989) and McCormack (1990) recommended that schools with high numbers of students experiencing difficulties should receive relatively more resources to fund Reading Recovery places.

The inequity of student access may be compounded by the fact that Reading Recovery is more likely to be available in high decile schools (Anand & Bennie, 2002) and less likely to be available in small, rural schools (Aitken & Greaney, 2000). The latter research on school uptake of Reading Recovery in the central North Island sub-region found that most schools with more than 50–60 students had Reading Recovery, while most with rolls smaller than this did not. Approximately 40 percent of primary schools in this region were not operating Reading

Recovery, but 70 percent of these would like to. Aitken and Greaney concluded that Reading Recovery is "differentially available to New Zealand 6-year-olds at risk of reading failure".

Summary

The research literature demonstrates that in general Reading Recovery is effective in lifting the performance of low performing students, regardless of ethnicity and first language, to the average level of their class by providing them with a range of reading strategies. It would seem, according to most studies, that the phonemic awareness and phonological processing skills of discontinued Reading Recovery students reach or exceed the levels of their regularly performing counterparts.

The evidence indicates that the majority of Reading Recovery students are able to maintain their gains, and continue to progress in the year following Reading Recovery, and some research findings suggest that these gains may also be sustained in the longer term. The impact of contextual factors, such as the quality of class instruction during and after Reading Recovery, the alignment between Reading Recovery and classroom teacher approaches to instruction, and home-school partnerships on the long-term progress of Reading Recovery students is touched on in the literature but this is clearly an area in which further research is needed, as is research on the equity of student access to Reading Recovery both within and between schools.

The research findings indicate that not all children are successful in Reading Recovery, and that some students with chronic reading difficulties require ongoing intervention. Some researchers note that because Reading Recovery is an intervention designed to meet the learning needs of students following their first year at school, other interventions targeting the needs of older students may be needed for some students.

The findings highlighted in this overview of the research literature provide a context for the research presented in the following chapters. The themes drawn from this overview are revisited in the discussion of the research findings in the final chapter of the report.

3. Perspectives of the trainers and tutors

Introduction

This chapter presents the perspectives of the three national trainers and seven tutors on student access to Reading Recovery, the effectiveness of the Reading Recovery model and of its implementation in schools. Trainers' and tutors' views on the effectiveness of Reading Recovery for Mäori and Pasifika students are presented along with their suggestions on ways in which the implementation of Reading Recovery could better support these students.

The Reading Recovery model

The effectiveness of the Reading Recovery model

We asked trainers and tutors to comment on the features of Reading Recovery that they considered were most important in terms of its effectiveness. The features most frequently mentioned were those that supported tutors and trainers to work as a professional community and maintain a shared set of theoretical beliefs and practices. These included the fact that Reading Recovery:

- is a research-based intervention;
- provides initial comprehensive training to teachers in observation techniques for reading and writing processes; and
- provides ongoing professional development through tutor-led support sessions with inbuilt systems for teacher accountability and collegial consultation to improve outcomes.

Also mentioned were the features of Reading Recovery as an intervention. These included the fact that Reading Recovery:

- is a short-term intervention designed to supplement the class programme;
- is a one-on-one intervention delivered at a critical age;
- involves daily instruction;
- capitalises on the reciprocity between reading and writing;
- supports the development of metacognitive skills and the beginnings of a self-extending system;
- uses performance data to inform teaching to individual needs;

- involves a school-team approach for selection and outcome decisions;
- supports the construction of meaning from text through the careful introduction of new texts prior to reading, and the revisiting of familiar books; and
- focuses on letters, sounds, and words in isolation and in the reading and writing of continuous text.

When asked about the place of phonological awareness in Reading Recovery trainers and tutors described the opportunities for direct phonics instruction during two components of every lesson: making and breaking using magnetic letters, and hearing and recording sounds in words during daily writing, along with the opportunities that arose incidentally when unknown words were faced in continuous text reading. Because they saw Reading Recovery as a continuous process of designing individual lessons rather than a fixed programme, they saw that the emphasis placed on phonemic awareness along with other reading skills differed according to the individual needs of the child.

> What we offer in terms of the phonics/meaning balance is in response to the kids' needs.

The trainers and tutors described their role in terms of building on student strengths and redressing gaps in students' repertoire of strategies.

Changes over time in the approaches used in Reading Recovery

The trainers and tutors noted that while there had been no fundamental changes in the approaches used in Reading Recovery, refinements were constantly being made in response to New Zealand-based and international research, the experiences of tutors and teachers, and national changes occurring in classroom instruction. The main modifications that had occurred included an increased:

- emphasis on phonological awareness and word level analysis with more specific use of making and breaking exercises with magnetic letters, as a result of Clay's work with Lynette Bradley and Peter Bryant at Oxford University in 1987–1988;
- attention to the literature and research on visual perception;
- emphasis on language fluency and phrasing as a result of Clay's analysis of linguistic and brain research;
- focus on oral language practices with an emphasis on the modelling of grammatical structures and rich vocabulary and the quality of student-teacher conversations;
- emphasis on writing as a result of research findings such as those by Glynn et al. (1989), the raised profile of writing in general classroom practice, and the publication of the National Exemplars. More emphasis was placed on the importance of children orally composing their story before writing and on raising teacher expectations about the length and complexity of students' written texts; and
- awareness of the levels Reading Recovery children need to reach to ensure their ongoing progress once their lessons have been discontinued, as a result of the more accurate analysis of

achievement made possible by the 6-month bands provided with the re-norming of the Observation Survey.

The consistent reference to these changes by the trainers and tutors we interviewed supports the finding that they were working as a professional community with common principles and practices based on research findings and collective experiences.

Prioritising places for the lowest performing 6-year-olds

Both trainers and tutors considered as close as possible to a child's 6th birthday to be the best point at which to enter Reading Recovery. They considered it optimal to wait until a child turned 6 because:

- students have had a year to settle in to school and experience school literacy practices;
- classroom teachers have had time to observe the literacy performance of individual children, and offer appropriate instruction;
- waiting until children are 6 allows time for the "spread" of literacy performance across a cohort to become apparent and determine who needs Reading Recovery in relation to the whole cohort; and
- the Observation Survey conducted at age 6 provides reliable data for schools to identify the lowest performing 6-year-olds.

Trainers and tutors considered it optimal for students to enter Reading Recovery in as short a time as possible *after* their 6th birthday because:

- the research evidence on the effectiveness of Reading Recovery is based on students who enter the programme between the ages of 6 and 6½;
- the longer students demonstrating literacy difficulties are left without support the wider the gap grows between their performance and that of their cohort increasing the likelihood of students developing poor self-concepts about their literacy abilities; and
- the older students are on entry to Reading Recovery the further they have to catch up to their peers, and so they may need to stay in Reading Recovery longer before being successfully discontinued.

The trainers and tutors described how some teachers considered their students were not "ready" to enter Reading Recovery at the age of 6 because of the low literacy levels they entered school with. The trainers suggested the concept of readiness may be attractive to schools with low implementation relative to need, that is schools at which not enough Reading Recovery places are provided to meet the numbers of students who need them. This was because delaying the entry into, or excluding, some 6-years-olds from Reading Recovery, on the basis of them "not being ready" or "not best placed to make progress" freed up places for students considered more likely to make rapid progress in Reading Recovery.

The trainers and tutors disagreed with this concept of readiness. They did not consider there to be an optimal stage at which students are "best placed to make progress" in Reading Recovery, and did not adhere to the concept of "readiness" for Reading Recovery. They argued that such a conception rested on a view of Reading Recovery as a "package" or a "programme" that one could be "ready" or "not ready" to benefit from. The trainers and tutors proposed an alternative conception of Reading Recovery, not as a programme but as a process, that is, a way of delivering one-on-one instruction, with the starting point of this instruction differing according to individual needs.

> Because Reading Recovery is [a] one-to-one [intervention] it's ideally placed to match teaching to *wherever* the child is… It's about getting that match. That's our job.

Students' access to Reading Recovery

The trainers and tutors identified three main groups of children unable to access Reading Recovery: those in schools with low levels of Reading Recovery implementation relative to student need, those in schools that did not offer Reading Recovery, and those in Mäori medium education.

Schools with low levels of implementation relative to need

Students could miss out on Reading Recovery where schools did not supplement the MOE staffing allocation, or did not respond to increases in school need with increased funding.

It was also likely to occur in schools that were not able to adequately address the literacy needs of their students in the first year of school. Trainers and tutors emphasised that Reading Recovery was not designed to address the needs of a whole cohort, but for the hardest to teach students. They advised that schools at which staff considered that nearly all their students needed Reading Recovery should address the nature of instruction in Year 1.

> I basically believe that if they're looking to Reading Recovery to do the job [of lifting the performance of a whole cohort], they're looking in the wrong place. They should be looking at the school programmes in Year 1 before Reading Recovery…You've got to be looking at the upskilling of the [Year 1] teachers. Reading Recovery is something extra… That [understanding] has been lost over the years.

> You'd end up having to put more than 60 percent of children on Reading Recovery at one school… It doesn't make sense. You're telling me that 60 percent of your children are not responding to the classroom programme. Well change your classroom programme. Reading Recovery is very parasitic on the system it's put into… It rests on the assumption of good first teaching. Without that it doesn't fit into place.

Some tutors observed the positive impact of First Chance[18] on the number of Reading Recovery places schools needed.

> First Chance is making an enormous difference… First Chance is lifting scores.

One tutor considered it unfair when low decile schools that had funded literacy interventions such as First Chance to raise reading levels, then missed out on the MOE Reading Recovery staffing allocation while those who had not taken similar initiatives received it.

> (MOE) funding goes to those schools with lots of kids on Red or Magenta. Six-year-olds from First Chance are now at Yellow. Schools who have put effort and funding into the first year of instruction, like with First Chance, miss out on Reading Recovery funding while those who don't bother, get it.

This tutor also commented on the heavy use of the Resource Teachers of Literacy by schools that did not offer Reading Recovery at all, or had very low implementation relative to need.

> There are two to three schools in this district that have opted out of Reading Recovery in the last few years. They say they can't afford it… These schools are relying heavily on the Resource Teacher of Literacy. Other schools are saying, 'That's not fair because we fund Reading Recovery and now we can't get our kids to the RTLit.' I know one large school that doesn't offer Reading Recovery to ESOL children. They say 'We can't afford it.' Then they [the ESOL children] are referred to the RTLit when they are 7 or 8.

The national trainers described how low implementation relative to need was less likely to occur in high decile schools due to a lower number of children needing Reading Recovery in the first place. In addition high decile schools were less likely to face attendance and student mobility challenges found in some low decile schools, which tended to compound the problems caused by relatively low implementation. One of the national trainers considered that such schools had more positive experiences of Reading Recovery because it worked "as designed".

Students in schools not offering Reading Recovery

The other main group of students identified as missing out on Reading Recovery were those in schools that did not offer it. The trainers and tutors suggested a range of reasons schools chose not to offer Reading Recovery.

Staffing allocation and funding

Trainers and tutors perceived the cost of Reading Recovery to be the main barrier to schools using it. They noted that some schools considered it more cost-effective to fund interventions delivered to groups. One tutor described this approach as giving more students a "bite of the apple". But she

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[18] First Chance is a professional development project designed to accelerate the literacy achievement of students in low decile schools during their first year at school. Further information about First Chance can be found in Phillips et al. (2002).

questioned the effectiveness of the "bite" when compared with Reading Recovery, given the specialist training of Reading Recovery teachers and the limited training of the teacher aides often responsible for group interventions. Other trainers and tutors thought there was a lack of research showing the effectiveness of some of these interventions compared with Reading Recovery for the lowest text readers and writers.

> Such schools are at risk of being lured into something else that might be sold to them as a silver bullet, and it isn't necessarily. If you are going to offer a second chance it needs to be well researched and based on evidence that it works… [What is the 'lure' you referred to?] To be seen to be doing something. I wonder if they [these schools] are going to the point of finding out whether these programmes actually are as successful as they say they are.

Beliefs or experiences of Reading Recovery being ineffective in certain school contexts

The trainers and tutors were aware that some schools chose not to offer Reading Recovery because of beliefs about, or past experiences of, Reading Recovery being ineffective in their particular school contexts. One of these beliefs was that Reading Recovery was not suited to schools with high need. Trainers and tutors acknowledged that low implementation relative to need could indeed compromise the effectiveness of Reading Recovery. They described how in such schools the system could quickly become "clogged" by students making slow progress or by the arrival of students from other schools needing Reading Recovery. This resulted in long waiting lists on which students got too old to enter Reading Recovery. In the worst case scenario, these students either missed out on Reading Recovery altogether or got put on Reading Recovery at the expense of students at age 6, an age considered optimal for making rapid progress in Reading Recovery, who in turn were put on waiting lists, missed out, or got too old. They also considered that in schools with long waiting lists the effectiveness of Reading Recovery might be compromised if teachers felt pressured into discontinuing children from Reading Recovery before they were ready, thus reducing the likelihood of their maintenance of progress.

They described how schools in which Reading Recovery places became "clogged" by children making slow progress sometimes framed these problems in terms of student deficit and sometimes as a deficit in the Reading Recovery intervention. Schools with low implementation were sometimes reluctant to put their lowest performing 6-year-olds or ESOL children on Reading Recovery because of the time they considered they would need in the programme compared with other children on the waiting list. These schools were seen to justify their decisions not to include these children by arguing that either the entry criteria of Reading Recovery were problematic, or that their lowest performing 6-year-olds were "not ready" or "less likely" to benefit from Reading Recovery compared with others. The trainers and tutors saw such problems as lying neither with the students nor the recommended Reading Recovery entry criteria but as a problem of insufficient resources being invested in the Reading Recovery intervention. As one of the trainers observed, "When there is pressure for spaces these things kick in."

The trainers and tutors also considered that the view presented in academic and media publications that Reading Recovery was in the "anti-phonics box" may have influenced some schools' decision making over offering Reading Recovery.

Small rural schools

Trainers and tutors described how small rural schools were less likely to offer Reading Recovery. This was because of difficulties in finding staff suitable for training in Reading Recovery, staff to release Reading Recovery teachers from their class, and the four children needed for a Reading Recovery teacher in training to work with. Trainers and tutors acknowledged that this last problem could be addressed through developing networks or clusters between small schools, and valued this initiative. Trainers also suggested that a distance delivery option for training could be offered if the resources were available for developing and staffing the option.

> I'd like to applaud the MOE's initiative in supporting those rural schools who are willing to network. It's great.

However they noted that this option was not always possible or seen as easy by schools.

Small schools also faced the travel costs of teachers attending training sessions and of release teachers travelling to schools. One tutor knew a release teacher who had to drive 64km one way to release the school's Reading Recovery teacher and described the costs incurred by the school as "phenomenal". Another tutor reported that some teachers were reluctant to do Reading Recovery release for this reason.

> We have heard some release teachers saying they are reluctant to do this [Reading Recovery release] when they get more money [because their travel is reimbursed] for other types of relieving.

Another tutor knew of a Reading Recovery teacher who had to take Reading Recovery in her lunch hour because of the difficulty of getting a release teacher to work for half an hour a day.

Staffing issues

The trainers and tutors saw staffing issues as another reason why some schools chose not to offer Reading Recovery. Some schools had highly mobile staff and others had a shortage of staff considered suitable for Reading Recovery training, especially those with high numbers of staff from overseas. A number of tutors referred to the increasing workload faced by teachers and the demands of initiatives such as the literacy and numeracy professional development contracts. They suggested that this may have left individual staff members and schools as a whole feeling that they did not have the time or energy to commit to Reading Recovery.

Students in Mäori medium education

Another group of students identified as missing out on Reading Recovery, were those in Mäori medium education. Tutors described how teachers did not wish to compromise their total immersion philosophy by offering students Reading Recovery in English, but that Reading Recovery had not yet been developed for use in te reo Mäori. Teachers had neither the support structures nor the resources to offer it in te reo.

The national trainers cited examples of students withdrawn from immersion classes and placed in mainstream classes to access Reading Recovery, and in some cases moved back again into immersion classes once discontinued.

The trainers described the development of Reading Recovery for delivery in immersion schools in Canada and Northern Ireland, and considered that Reading Recovery could be successfully delivered in te reo Mäori if the necessary research and development into comparable structures for Mäori medium education were carried out.

The impact of student mobility

The trainers and tutors described the way in which students could "get lost" in the transfer between one school and the next. These children might move to a school not offering Reading Recovery or move to one with Reading Recovery but not get access to it. The national trainers were aware of "some resistance" in schools to the practice of prioritising a transferring student partway through Reading Recovery. This was sometimes due to a sense of loyalty to the children at their school and sometimes due to reluctance to offer a place to a child with a history of high mobility, because of the expectation that the child would just move on again. They felt there was a need for Reading Recovery teachers to have a sense of ownership of all Reading Recovery children, including those who arrived from other schools.

> We hear talk of 'imports' and 'our own children'. I'd like schools rather than thinking they [transient children] might move on, to be thinking, 'We've got to do it [offer them Reading Recovery] while we've got them.'

The trainers and tutors considered that the allocation of every Reading Recovery student with an identification number as part of the Reading Recovery national assessment data collection and monitoring system would make it easier to keep track of students from school to school.

> The way the Ministry of Education is tracking students is really useful. You can see how many transient children are picked up and finish the programme.

The distribution of places by school rather than nationally

We asked the trainers and tutors for their views on the allocation of Reading Recovery hours on a school-by-school rather than national basis. Some considered the principle of offering Reading

Recovery to the lowest text readers and writers by school rather than nationally ensured school accountability for the quality of literacy instruction in Year 1.

> You have to have full implementation on the basis that there has been jolly good first teaching. I would not like to see full implementation following poor first teaching.

Some considered that the most equitable way of addressing the differential in school need for Reading Recovery places was to fund literacy professional development and programmes in these schools to lift the quality of instruction and performance of students in Year 1.

The trainers and tutors emphasised the importance of Reading Recovery being available to students in high decile schools. Many argued that students in high decile schools with reading or writing difficulties were *more* "at risk" than those at low decile schools because they had often already had a lot of support when compared with their low decile counterparts and yet were "still not taking off", suggesting that their difficulties may be more entrenched.

> Children in high decile schools in Reading Recovery are very low in my experience. In their school they'll still be causing a problem and need to be brought up to average [of their class].

The school context of Reading Recovery

Conditions supporting effective implementation of Reading Recovery

We asked trainers and tutors to comment on the school conditions they considered contributed to the effective implementation of Reading Recovery. The conditions most frequently mentioned were:

- BOT and senior management support of Reading Recovery;
- school-wide commitment to Reading Recovery including teachers of older classes;
- experienced teachers and strong, daily literacy instruction in Year 1;
- high implementation relative to need;
- skilled Reading Recovery teachers;
- opportunities for Reading Recovery teachers to provide professional development to others;
- strong lines of communication between Reading Recovery teachers and class teachers;
- strong home-school partnerships; and
- high expectations of, and a proactive approach to, student attendance.

Other conditions less frequently mentioned included:

- the involvement of all members of the school's Reading Recovery team in Reading Recovery decision making;
- time funded for the ongoing monitoring of discontinued Reading Recovery students; and
- a continuation in training of Reading Recovery teachers rather than relying on one long-standing Reading Recovery teacher.

Transition from Reading Recovery and ongoing support

Trainers and tutors expressed a range of views in relation to student transition from Reading Recovery back to the classroom. Some did not view this process as a transition.

> Good transition starts *way* before discontinuation. Children learn to do in class what they do in Reading Recovery. If this has happened it will be smooth when it comes to the time of discontinuation.

Others identified the processes of supporting student transition back to the classroom as being an area in which modifications could be made, especially in terms of the Reading Recovery teacher observing or working with Reading Recovery children when in class.

> I sometimes wonder if Reading Recovery teachers are actually looking at children in class. It's a team approach.

They referred to the recommendation in the Reading Recovery guidebook that teachers observe their students working back in the classroom at the time their series of lessons is discontinued to check on their ability to work independently. One of the trainers also described how the presence of the Reading Recovery teacher in the classroom could also help students' transition.

Transition was considered to be more effective when:

- there was compatibility between class teacher and Reading Recovery teacher;
- the Reading Recovery teacher knew how the student was working in class;
- the Reading Recovery teacher was not pressured into discontinuing a student before they were ready due to other children getting too old on waiting lists;
- teachers' expectations were appropriate and teachers placed students at an appropriate reading level; and
- the decision to discontinue was a joint one with input from all of the school's Reading Recovery team members, including the classroom teacher.

The national trainers mentioned that the provision of stanines at every 6 months between the ages of 5 and 7 in the 2000 Observational Survey norming made it easier to ensure that Reading Recovery students were at the level of their school cohort at the end of their lesson series.

Attendance rates and student progress

Both trainers and tutors described the negative effects of student absenteeism on rates of progress but also observed that Reading Recovery sometimes forced schools to deal with attendance issues that had been overlooked.

> Some schools may be tempted to stop the programme or worse still not even start the programme rather than deal with the attendance issue itself. In other cases though being in Reading Recovery pushes school staff to act on attendance issues that haven't been acted on in the past.

The national trainers described a range of innovations developed by schools for coping with absenteeism such as offering a student two sessions in one day if an absence was known about in advance, or offering an extra session if there was an unexpected absence. One school had "fantastic" attendance rates because the school's bus driver picked up Reading Recovery students.

> Is that Reading Recovery? In some ways it is. A Reading Recovery school team that shows this kind of initiative will get results. Again, it's larger than Reading Recovery because it's the way the school approaches transience or attendance.

School and teacher responsibility for lack of continuity in Reading Recovery sessions was also identified in relation to student progress.

> It is also *teacher* absence that affects completion. It is not always about *students'* attendance. In-school professional development, school trips… So it's not just student attendance that's a risk factor.

> The crowded curriculum. The number of times the child misses Reading Recovery due to other school activities such as visiting performances usually equals the time the child has missed through lack of attendance at school for things like sickness.

The national trainers saw ongoing absenteeism and mobility as not just problems for students while in Reading Recovery but as placing students at risk for their "whole-school career". They saw these problems as problems that were best addressed at school level, as well as at the Reading Recovery teacher level, with the school and the Reading Recovery teacher working together.

Training on the place of Reading Recovery in the school

The national trainers described the impact of the school context on Reading Recovery outcomes.

> Reading Recovery will work best for those students in schools that work effectively with *all* their students at a whole-school level. We need to make sure that Reading Recovery is part of the school, and the school decision making.

They described the place of Reading Recovery in the school as being a significant component of both tutor and teacher training. This training covered how Reading Recovery fits into the school's literacy curriculum and reporting and administrative structures. Tutors were not trained to offer professional development to class teachers on aspects of literacy that sit outside of Reading Recovery as their role was to work within Reading Recovery and to assist schools to effectively implement Reading Recovery, rather than to act as general literacy advisers.

While some tutors observed that they were well placed to offer general literacy professional development to teachers because of their specialist literacy expertise they emphasised that their role was to assist schools in the implementation of Reading Recovery.

> We need to stay focused on our job. It would come at a cost. By training teachers in Reading Recovery we're creating a resource anyway.

The topics most commonly covered by tutors who had provided Reading Recovery-related staff professional development included administering and interpreting results from Running Records and the Observation Survey. Other topics included: text selection, introducing reading books to young children, reading levels, pre-writing conversations, and using assessment results to guide teaching.

The trainers and tutors observed that while Reading Recovery teachers, like tutors, were neither selected nor trained to be general literacy advisers in their schools, there was some scope within a Reading Recovery teacher's role for offering training to colleagues on such things as the administration of the Observation Survey of Early Literacy Achievement. They described how the Reading Recovery teacher could, if asked, assist colleagues with aspects of literacy assessment and analysis outside of any time allocated to Reading Recovery teaching.

> We don't train Reading Recovery teachers to do it. We don't have time. They are able to offer advice on Reading Recovery and the Observation Survey.

> I encourage my Reading Recovery teachers to run workshops around taking and using Running Records. I have worked alongside Reading Recovery teachers to plan and do this. I tell them they are the people with the strength and expertise.

One tutor considered the status of Reading Recovery teachers in some schools would affect their ability to offer advice to other staff. Being offered time by the school to assist colleagues was also considered to be a factor influencing the extent to which the Reading Recovery teacher was able to share their expertise.

> [The Reading Recovery teacher can offer advice] if the teacher has enough status. It's up to the school to give them the time. A lot of Reading Recovery teachers have no clout in their school. They would need support from school management to do that.

Students' progress during Reading Recovery and beyond

Predictability of students' progress in Reading Recovery

The trainers and tutors considered that it was almost impossible to predict rates of progress or outcomes in Reading Recovery by entry levels or literacy behaviours, and this perception is confirmed by the national Reading Recovery data collected by the MOE (Anand & Bennie, 2005).

> There are no specific predictors. I am constantly surprised.

However there were some factors external to students that were considered to have a positive impact on rates of progress in Reading Recovery. These included:

- an uninterrupted sequence of lessons through consistent students' and teachers' attendance;
- Reading Recovery lessons designed to match closely students' strengths and needs;
- strong classroom literacy instruction including daily guided reading and the use of assessment data to inform teaching;

- regular communication between the Reading Recovery and the class teacher;
- a stable out-of-school life; and
- home literacy support.

The trainers and tutors argued that it was most important to target the lowest performing 6-year-olds because these were the harder to teach children.

Maintenance of gains when discontinued

Trainers and tutors described how the development of the self-extending system provided students with the metacognitive skills to apply and develop their strategies when they returned to the classroom.

The trainers and tutors considered that students were likely to maintain their gains made in Reading Recovery if their:

- ability to survive without extra support was accurately judged;
- transition off Reading Recovery was successful, that is, they exhibited the strategies and skills developed in Reading Recovery back in the classroom;
- they were placed in an appropriate level reading group;
- ongoing literacy instruction was strong and based on ongoing monitoring;
- class attendance was regular; and
- home life was stable.

The long-term progress of discontinued Reading Recovery students

While trainers and tutors saw Reading Recovery as effective in both lifting the performance of students and providing them with the strategies and metacognitive skills to maintain their gains, they saw the *long*-term progress of Reading Recovery students as being beyond the control of Reading Recovery.

> Our criterion of success is the number of children who can continue back in the class but we can't control what happens beyond Reading Recovery.

The long-term progress of discontinued students was seen, just as it was for non-Reading Recovery students, to be reliant on strong classroom literacy instruction in the years following Reading Recovery.

> It's a very tall order to ask *long- term* progress of Reading Recovery. We catch a child up in a relatively short time. But then they need a classroom where continued learning is supported, for *long-term* progress to occur.

> It depends on other factors. It's out of control of Reading Recovery in a sense. [It depends on] sensitive monitoring and good class teaching, and commitment to help a child further if slipping goes on.

The trainers and tutors commented on the changing focus of literacy instruction as students moved up the school and the main focus shifted to comprehension and critical thinking about text.

In the face of increasingly complex texts some students, particularly those from homes with literacy practices that differed from the school or with English as a second language, needed additional support.

> There's a certain degree of capability with print that we are expecting them to get under way with but it's nowhere near the whole journey. It's vital, it's imperative but there's much more to be done in terms of reading after that.

> About Year 4 reading undergoes massive changes…With Pasifika children, say, issues of comprehension become massive.

The ongoing monitoring of both ex-Reading Recovery and non-Reading Recovery students and the provision of interventions for students needing additional support were factors considered to increase the likelihood of students continuing to make progress in terms of their literacy performance.

> The long-term progress all depends on the commitment of a school to nurturing Reading Recovery children into the future, the ongoing monitoring and being prepared to do something about it. We try to help Reading Recovery teachers to set up a policy and plan at their school to do this. The schools in which Reading Recovery is successful usually have this in place.

Tutors observed that careful monitoring and strong classroom instruction did not always occur in the years following Reading Recovery, sometimes causing discontinued Reading Recovery students (and non-Reading Recovery students) to fall behind.

> Instructional reading in class every day is needed in Years 3, 4, and 5… I don't think that [always] happens. They're only going to maintain their progress if they have good instructional reading in the classroom.

Modifications to Reading Recovery and its implementation

Staffing allocation and funding

The national trainers considered there had been a relative decrease in the Reading Recovery staffing allocation for Reading Recovery provided by the MOE over time due to the 18 percent increase in 6-year-olds in the early 1990s without a corresponding increase in staffing allocation. They also considered that the increase in tutor salary costs had not been matched by increases in MOE funding. This was seen to impact on the implementation of Reading Recovery in a number of ways including the reduction of the number of tutors from 35 to 28 and the inability of schools to meet student need.

> I don't think the MOE funding is adequate. You'd have to say that any child at Red level or Magenta after a year at school needs help. Even if schools nationally matched the government funding put in, we still wouldn't cover all the kids at Red and at Magenta. So there is a shortfall.

However trainers and tutors also emphasised the need for schools to take responsibility for funding Reading Recovery to meet their school need.

> The MOE funding should be supplementary. Some schools don't have the understanding that they should put some [of their own discretionary funds] in.

Some tutors commented on regional variations in the MOE Reading Recovery staffing allocation provided to schools and suggested a more systematic national approach be adopted.

Advice given to schools and school accountability

Both trainers and tutors considered there had been a loss of Reading Recovery advocacy and advice with the shift of school decision making from education boards and inspectors to individual schools and boards of trustees. This had resulted in a loss of understanding about Reading Recovery over time.

> A few years ago, because of self-managing schools, and the proliferation of other interventions being marketed we [as a nation] nearly lost sight of the value of Reading Recovery. We know that for any innovation in an education system the challenge is keeping the innovation going. It needs active support to keep it going well. Because it's been around so long, it's a struggle to keep people understanding the reason things are done the way they are. As Marie Clay said, it destroys the evidence that it's needed… Out in schools the danger is we'll get a generation of teachers, principals, and parents who don't know what life was like before Reading Recovery.

National trainers and tutors considered that neither the ERO nor the MOE fulfilled the advisory role of the inspectors. While tutors had, to some degree, picked up this role themselves, they did not consider they had the time to reach all boards of trustees. Neither did they consider that they were best placed in their position as tutors to take on this role.

> [We need] strong leadership from the MOE in this respect [informing schools about effective implementation of Reading Recovery]. Schools are self-managing so I don't know how it would work. We offer PD. We can and do advise. But if we're seen as the *only* ones in the system pushing these messages it's easier [for schools] to dismiss them. Having the same messages coming from the MOE would be good.

Some commented on the high levels of accountability demanded of and provided by Reading Recovery in comparison with the other interventions funded by the MOE.

> There needs to be more accountability [with regards to literacy interventions]. It is not a matter of what programmes are being offered, but what the *effects* of these programmes are. I would like to see these things reported in ERO reports.

> I think in general there needs to be more funding support *and* more accountability – more carrot and more stick. So that ERO should be saying to them [schools], 'Prove to me that you have offered an intervention to your lowest group of students, and how you follow-up on their progress, and what happens to them three years after that.'

The increasing number of part-time Reading Recovery teachers

Another concern of the trainers and tutors was the increasing number of Reading Recovery teachers working in isolation from the school. These were teachers who did not have a class of their own, and often worked part-time servicing the Reading Recovery needs of one or more schools. Trainers and tutors suggested that some schools preferred this model because of parents, particularly in high decile schools, who did not like their child having another teacher taking their child's class when their usual teacher was taking Reading Recovery. They also considered that some principals were keen to keep their good teachers in class full-time. They considered that some class teachers were reluctant to train in Reading Recovery while also managing class and other work commitments, while other teachers preferred a part-time job that just involved Reading Recovery.

Trainers and tutors expressed concern about the lack of involvement of some part-time Reading Recovery teachers, in the wider life of the school. When the Reading Recovery teacher was not at staff, syndicate, and literacy meetings and school-wide professional development, schools missed out on the input of a literacy specialist. School staff also missed out on the informal feedback often offered by Reading Recovery teachers to class teachers during morning tea or lunchtime.

> It affects the team because they don't have the contact. They don't go to staff or syndicate meetings because they're not paid to. They miss out on incidental communication because they drive from school to school at morning teatime.

When the Reading Recovery teacher was part-time there was an increased risk of it being seen as an "add on" and not an integral part of the school literacy programme. Trainers and tutors observed that when Reading Recovery teachers only visited schools to teach Reading Recovery, they also risked losing touch with the context and culture of the school. In those schools with high numbers of students from diverse cultural backgrounds, it was seen as particularly important for Päkehä teachers not to lose touch with the wider culture of the school.

Low turnover of Reading Recovery teachers

Trainers and tutors expressed concern that teachers were staying in Reading Recovery for increasingly long periods of time. The expected turnover of the Reading Recovery teacher every 3 to 4 years was not always occurring, with some teachers holding the Reading Recovery position for up to 12 or 15 years. Turnover ensured schools had a range of teachers with Reading Recovery expertise, and that Reading Recovery teachers had recent classroom experience. One national trainer described how the identity of "Reading Recovery teacher" could become fixed, with the position seen as belonging more to the person than to the school as a whole, and that this was not always beneficial for either the school staff or the Reading Recovery teacher.

> The idea that a Reading Recovery teacher is *the* Reading Recovery teacher and will be there for life. It somehow treats Reading Recovery as something that just belongs to this one person. Sometimes the climate is such that other teachers can't train. It's not a safe thing to

ask if they can train. It's about [schools] knowing when it's time to make a change. Some schools train regularly so they can share the expertise.

The effectiveness of Reading Recovery for Mäori and Pasifika students

Addressing the needs of Mäori and Pasifika students in training

The training and professional development of tutors

The national trainers and tutors described a range of ways in which the needs of Mäori and Pasifika students were addressed in tutor training. One was through the use of research literature addressing the needs of Mäori and Pasifika students, which was used as a basis for training modules. The trainers described how Clay's (1985) paper *Engaging with the school system: A study of interactions in new entrant classrooms* and Cazden's (1988) monograph *Interactions between Mäori children and Päkehä Teachers* has been required reading in tutor training and how the report produced for the Department of Education, *The success of Mäori children in the Reading Recovery programme* (Clay & Watson, 1982), was integral to the training since its release. Tutors also commented on the ongoing sharing of research literature by trainers.

The trainers described how they made use of Pasifika and Mäori advisers in the delivery of training and how as new resources, such as the Te Mana videos,[19] became available they were shared with the tutor team. Over time they had placed more emphasis in training sessions on teaching students for whom English was a second language in response to the increasing number of ESOL students in Reading Recovery. Issues for Mäori and Pasifika students were also addressed at the annual tutor development weeks, and one of these weeks had been devoted entirely to issues for Mäori students.

The trainers also considered that the needs of Mäori and Pasifika students were addressed through their active recruitment of tutors; two Mäori teachers were selected and trained as tutors in 1993 and one in 1998.

The national trainers also described their involvement with the redevelopment in Mäori of Clay's Observation Survey of Early Literacy Achievement, a set of assessments used amongst other things for the 6-year survey, common in New Zealand schools, and for entry to and exit from and Reading Recovery.

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[19] The Te Mana Korero video series has been developed by the Ministry of Education to help teachers focus on quality teaching practices that can better engage Mäori students in learning and improve academic and social outcomes. Te Mana http://www.taiohi.co.nz is part of the Whakaaro Matauranga – Think Learning project aimed at raising expectations of Mäori achievement amongst Mäori, the community, and education providers.

The training and professional development of Reading Recovery teachers

Tutors identified a number of ways in which they included a focus on Mäori and Pasifika students in their ongoing training and support of Reading Recovery teachers. These included:

- training in the use of the record of oral language;
- focusing on language structures;
- focusing on the importance of book selection and linking book content with children's lives;
- focusing on ways of making room for children to bring their own language and experiences into Reading Recovery;
- passing on readings on research to do with Mäori children;
- emphasising the importance of wait time identified in Cazden's (1988) research; and
- including greetings, karakia, and mihi in training sessions.

One of the principles of Reading Recovery training and ongoing support is that groups consist of teachers from a diverse range of school types to ensure that Reading Recovery teachers are exposed to a wider range of issues than just those experienced at their own school. Tutors considered that this practice ensured all Reading Recovery teachers received exposure to issues for Mäori and Pasifika students, even if they were working in schools with few or no students from these groups.

One of the trainers described how ideally teachers' experience and professional development in working with Mäori and Pasifika students should also come from the schools in which they worked.

> If a school has a high proportion of Pasifika children, say, then one would expect the Reading Recovery teacher should have recent successful experience working with those children, and that what we add is problem-solving abilities and techniques relating to becoming literate in English. It is a school issue. At the school level a lot can be done on working with Mäori and Pasifika students. You don't just want Reading Recovery to be dealing with this. You want a school approach – for everyone to keep talking and thinking about it.

Perceptions of effectiveness for Mäori and Pasifika students

Both trainers and tutors considered that what made Reading Recovery effective for Mäori and Pasifika was the capacity to cater for individual difference. They described the way in which the first two weeks of Reading Recovery, termed "Roaming around the Known" provided opportunities to build relationships and learn about students' out-of-school experiences. Instruction could then be informed by this knowledge.

> Cultural and linguistic diversity is accommodated for because the planning and delivery of instruction are on an individual basis. [Through] Roaming around the Known we can identify and build on the knowledge that all students bring to Reading Recovery. What the learner brings to the task is as important as what the teacher brings.

The one-to-one, open-ended nature of Reading Recovery was considered particularly effective for students still learning English language structures, because teachers could engage students in the use of correct language structures in authentic and meaningful contexts, and negotiate the meanings of unfamiliar language structures and vocabulary found in books.

> Half an hour daily with an adult with a good model of English. It provides a strong language programme… One-to-one talking is what gets kids talking.

> There's a lot of opportunity in a one-to-one situation to negotiate the meanings of those texts.

Recommended changes to Reading Recovery to better meet the needs of Mäori and Pasifika students

Without a research base to draw on, the national trainers felt unable to comment on any modifications that could be made to Reading Recovery to better meet the needs of Mäori or Pasifika students. They did however emphasise the importance of all teachers, whether involved in Reading Recovery or not, being good observers and communicators and being culturally aware.

Tutors and teachers

Quality Reading Recovery teachers were considered to be one of the main factors for better supporting the progress of Mäori and Pasifika students. This did not necessarily mean the teachers had to identify as Mäori or Pasifika themselves.

> If we are getting good Mäori and Pasifika teachers to train… [Do you mean you need more Mäori and Pasifika teachers?] We need good teachers for Mäori and Pasifika students. It's hard to get them… That's a systemic problem – not just a Reading Recovery problem.

However, both trainers and tutors noted that Mäori and Pasifika teachers brought with them advantages when working with Mäori and Pasifika students, particularly if they were bilingual.

> It would seem to me that a bilingual teacher would have a better chance working with a little bilingual Samoan child than one who isn't… I watched a white middle-class teacher work with a very troublesome little Mäori boy and you get very hit with the distances they have to travel to communicate with each other.

> I've seen some really good bilingual teachers switch into their own language to explain a concept in a book.

They commented on the difficulty of getting Mäori and Pasifika teachers to train in Reading Recovery.

> We've made an effort to train more Mäori teachers to become Reading Recovery teachers. We've worked with the College of Education…The trouble is they [Mäori teachers] are so busy. Good Mäori teachers are called on by *everybody* to do *everything*.

At the time of this study all the Reading Recovery tutors were New Zealand European. However a newly trained Mäori tutor was taking up a tutor position in 2005. While the national trainers were aware of the need for greater diversity in the ethnicity of their tutors they indicated that it had not been easy to retain the Mäori tutors they had trained in the past.

> We've trained three Mäori tutors in the past. What happens is they're too valuable. They get snaffled for other things.

Texts

Both trainers and tutors commented on the importance of students having access to texts in which their own culture was represented.

> It's getting easier to find books where they can see themselves. It was pretty British in the past. We don't write the books. We have the same problems as classroom teachers.

They also commented on the importance of students being exposed to texts covering topics both within and beyond their prior experiences.

> Some people are critical of Reading Recovery because of the Palangi and Päkehä books, but it broadens their experiences.

Partnership with parents

Some of the tutors saw increasing partnership with parents as one way the implementation of Reading Recovery could be improved to better support the long-term progress of Mäori and Pasifika students. They emphasised the importance of building relationships, especially when students were selected for Reading Recovery, and maintaining strong lines of communication.

> [With Mäori and Pasifika children] there is more likely to be a distance between the school and the home. Maybe the family aren't as comfortable about contacting the school or tackling the school if things aren't going well for the child.

> Could we perhaps make more effort to include whänau in decisions being made, the progress being made, and in celebrating the progress? Life circumstances like lacking a phone mean this is not always easy. We need to have ways of dealing with that.

Some tutors described the positive impact strong home-school partnerships had on student progress.

> I do know in cases when the parent is on board (and most are) and is able to meet with the school, come to see a lesson and is kind of going on the journey with the child, the child behaves differently. The child behaves differently when the parent is following up at home, like asking the child how their lesson went. There may well be a place for a more systematic approach to achieving this.

Literacy instruction in bilingual units

Tutors considered that Reading Recovery could better meet the needs of Mäori and Pasifika children if more support and professional development were given to teachers in bilingual units. A couple of tutors expressed concern about the quality of literacy instruction in bilingual units and the implications this had for Reading Recovery.

A consideration of providing Reading Recovery in te reo Mäori

Tutors observed that while students from bilingual classes could access Reading Recovery, this was not the case for students in total immersion. They described a range of obstacles preventing the delivery of Reading Recovery in te reo Mäori. These included the fact that:

- Reading Recovery training is not delivered in te reo Mäori and there is no Reading Recovery bridging programme to facilitate the transfer from English to Mäori;
- total immersion teachers would have to work with four children in the English-speaking part of the school in their training year; and
- finding teachers to release total immersion teachers from their classes to train and deliver Reading Recovery would be difficult due to the shortage of teachers fluent in te reo Mäori.

One of the tutors felt strongly that the inability of children in total immersion to be involved in Reading Recovery was an issue that needed to be examined.

The trainers observed that the provision of Reading Recovery in te reo Mäori would require not simply a translation of the Reading Recovery materials into te reo Mäori but a complete reconstruction. They referred to the reconstruction of the assessment techniques used at Reading Recovery entry and exit points that was completed by Rau (1998), *He Matai Ata Titiro Ki Te Tutukitanga Matatupu Panui, Tuhi. Pukapuka Matua; the Mäori Reconstruction of An Observation Survey of Early Literacy Achievement by Marie Clay,* and the use of the expert knowledge of National Reading Recovery staff in this reconstruction to ensure that the Mäori script elicited the types of responses required from students. The trainers observed that the findings of Rau (1998) provide an indication of the linguistic differences between the two languages that would need to be taken into account in the redevelopment of Reading Recovery into Mäori. They gave as examples the need to redevelop the Hearing and Recording Sounds Task, Whakarongo, Tuhia Nga Tangi O Roto I Hga Kupu to recognise the phonemic regularity of the Mäori language, and the need to observe children's recording of digraphs, and the dialect variations across New Zealand.

Summary

One explanation for the robust and replicable implementation of Reading Recovery over 20 years and across a range of educational settings is the "coherence" (Newmann et. al., 2001) deliberately created and maintained by professional communities of trainers and tutors who shared research-

based theoretical principles and practices. This coherence is supported by some of the structural features of the Reading Recovery model such as the comprehensive research-based training provided to trainers, tutors, and teachers, and the ongoing professional development provided through the tutor-led Continuing Contact sessions with inbuilt systems for shared observation, teacher accountability, and collegial consultation. These features were the most frequently mentioned by trainers and tutors as accounting for the effectiveness of Reading Recovery. Strong evidence of coherence was provided in the consistency of the principles and practices espoused by the trainers and tutors we interviewed.

A potential risk for communities with high levels of coherence is the failure to identify the need to look further afield for new theoretical ideas. While the research base of Reading Recovery was highly valued by all the trainers and tutors we spoke to, fewer explicitly expressed the need for ongoing research and new evidence. However, it is important to acknowledge that this was not a question we asked directly, and the importance of ongoing research may have been taken as a given. The trainers and tutors certainly provided insights about aspects of the delivery of Reading Recovery that provide potential areas for future studies.

The trainers and tutors described a number of refinements that had been made to Reading Recovery in response to research findings, experiences of Reading Recovery teachers, and national changes occurring in schools. These included an increased emphasis on phonological awareness, visual perception, language structures and fluency, oral language, and writing. The re-norming of the Observation Survey had led to increased understanding of the levels needed as evidence that the extra support provided by Reading Recovery was no longer required. These changes were reflected in changes made to the training of Reading Recovery tutors and teachers. The training received by tutors we interviewed had not, by and large, covered ways of providing general literacy professional development to class teachers, and the extent to which tutors encouraged Reading Recovery teachers to do this varied.

They considered Reading Recovery to be effective in lifting the performance of the lowest performing text readers and writers and considered the maintenance of Reading Recovery gains and the continuing progress of students to be dependent on ongoing monitoring and quality classroom literacy instruction in the years following Reading Recovery.

The trainers and tutors expressed concern about the capacity of the Reading Recovery staffing allocation provided by the MOE to meet student need, and the loss of Reading Recovery advocacy and advice once provided by education boards and school inspectors. The increasing number of Reading Recovery teachers who did not work full-time in one school, and the lack of turnover of Reading Recovery teachers in some schools were also issues of concern.

Three main groups of children were identified by trainers and tutors as missing out on Reading Recovery: those in schools not offering Reading Recovery, those in schools with low implementation relative to need, and those in Māori medium education. According to the national trainers funding-related issues were the main reasons schools chose not to offer Reading Recovery. Other reasons were related to the travel, staffing, and time challenges faced by small

rural schools. They also acknowledged because Reading Recovery has not yet been reconstructed in te reo Mäori, it could not be used in Mäori medium education. The trainers and tutors saw objections to the recommended age of entry, or objections to the prioritising of the hardest to reach children as symptomatic of schools which had not adequately addressed the literacy needs of their Year 1 students and with low Reading Recovery implementation relative to school need.

National trainers and tutors considered Reading Recovery to be an intervention particularly well suited to Mäori and Pasifika students. This was because the one-to-one, open-ended nature of Reading Recovery enabled teachers to build effective relationships with students, tailor instruction to their out-of-school experiences, negotiate the meanings of text content, vocabulary, and language structures unfamiliar to students, and to model new oral language structures in authentic contexts. They considered that Reading Recovery could better meet the needs of Mäori and Pasifika students if there were more Mäori and Pasifika Reading Recovery teachers and texts addressing experiences relevant to Mäori and Pasifika students. They also highlighted the need for improved home-school partnerships, and an examination of the issues associated with providing Reading Recovery in te reo Mäori.

4. Analysis of the 2003 national Reading Recovery data

Introduction

From an analysis of the 2003 National Reading Recovery data, which included comparisons with previous years, Anand and Bennie (2004, 2005) note that, like other New Zealand literacy data, Reading Recovery data show variations by gender, ethnicity, and school decile. They report that proportionally more boys, Pasifika, and Mäori students enter Reading Recovery, and fewer girls, Asian, and New Zealand European students. Reading Recovery is more likely to be offered in high decile than low decile schools, but low decile schools have a larger proportion of students receiving Reading Recovery, and these students have more time in Reading Recovery. Students in low decile schools and Mäori and Pasifika students are less likely than other students to be discontinued successfully. Students in low decile schools are more likely to be referred, leave school before completing Reading Recovery, or be "responding but not able to be continued". Mäori are more likely than other students to leave school before completing Reading Recovery.

To undertake a further analysis of the relative effectiveness of Reading Recovery for Mäori and Pasifika students as compared with students of other ethnicities, the 2003 Ministry of Education Reading Recovery national dataset was used to investigate students' literacy levels on entry into Reading Recovery, and their outcomes. Linear models were fitted to the assessment scores of the children who had been discontinued or referred and their outcomes were examined in relation to ethnicity and school demographics. A more detail description of the methods used and interactions is located in Appendix K.

Analysis of the data for students who were discontinued or referred

Schools provide the MOE with data on three of the seven Reading Recovery entry and exit assessments: the Instructional Text Level, the Clay Writing Vocabulary assessment, and the Burt Word Reading Test (Gilmore et al., 1981). Schools provide scores on these tests for students who are successfully discontinued from Reading Recovery, or who are referred on from Reading Recovery for further support. The national dataset should have a record for every student enrolled in Reading Recovery. In 2003, of the 10,511 students with sufficiently complete data to be

considered for further analysis, 6329 (87 percent of the sub-group) were discontinued and 942 (13 percent of the sub-group) were referred on, giving a total of 7271 (69 percent of all students) who had these outcomes. The remainder were continuing with Reading Recovery in the next year (2674) or unable to continue for reasons such as leaving the school (566).

We investigated whether it was possible to model or predict the outcome (discontinued or referred) using only the information known at the start of Reading Recovery: the initial scores, the students' gender and ethnicity, and the school characteristics (see below for details).

We investigated the number of lessons received, and examined these in light of the gain made by the students (the difference between the initial and final scores), their status at the beginning of the year of completion, their gender and ethnicity, and the school characteristics. It became clear during the investigation that the situation for the discontinued and referred students was sufficiently different that it was more appropriate to fit separate models for these two groups of students. Communications with the MOE indicate that children having lessons with a trainee teacher may have received more lessons than they "needed", as the teacher was still learning the principles of designing Reading Recovery lessons. Results involving the number of lessons therefore need to be interpreted with some caution, and associations found may not have been as clear as they might have been had we been able to include only students who had lessons from experienced teachers.

We also investigated the initial and final scores for each of the three assessments and modelled these by the possible explanatory variables for which we have data:

- gender;
- ethnicity (prioritised, as in the 1996 Census, into Mäori, Pasifika, Asian, and New Zealand European/Other—there were very few "other" ethnicities and most of these students were from European countries, so they were included with the New Zealand European students);
- decile (grouped into quintiles, for example, decile 1–2);
- type of school;
- authority of school;
- school roll (grouped: up to 52; 53–104; 105–199; 200–299; 300+);[20]
- location of school (main urban, secondary urban, minor urban, or rural area, determined by the population in the area);
- percentage of Mäori enrolment (categorised as: under 8 percent; 8–14 percent; 15–29 percent; 30 percent or more);
- status of child at beginning of year they discontinued (whether they continued from the previous year, transferred from another school, or were new to Reading Recovery); and

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[20] MOE data on the curriculum and management FTTE allocated by roll size were used to divide the school roll into categories that reflected the likely number of teachers at a school. These categories were used to analyse the NZCER Reading Recovery survey data, and the same categories were used to analyse the national Reading Recovery data.

- number of Reading Recovery lessons. (The MOE dataset contains two variables describing the number of lessons. The first is supposed to be the "Number of 30 minute lessons for child's *whole* programme", and the second "Number of calendar weeks for child's *whole* lesson series". The number of weeks is important both because it indicates how long a student has occupied a place in Reading Recovery and because lessons tend to be less effective if widely spread across time. However we found that the first measure was recorded more reliably than the second, and so that is the measure used in this analysis.[21])

Again, we modelled the scores for the discontinued and referred students separately.

Method

We used general and generalised linear models in which the independent variables used were gender, ethnicity, school type, location, authority, and percentage of Mäori students in the school. The dependent variables used were the outcome, the number of lessons, and the scores. The models for the initial scores only included factors that were known and relevant at the time of the initial test. The models for the number of lessons and final scores included status (at the start of the year of completion) as an independent variable. The model for the number of lessons included all the initial scores as covariates (the model took account of the correlation between the initial scores and the number of lessons), and the models for the final scores included the corresponding initial score and the number of lessons as covariates.

Three-way and higher interactions were not included in the model as, firstly, they are difficult to interpret (there is a significant interaction for the final writing score of discontinued students between school decile, location, and type, which means that the overall trend for the final score to increase as decile increases is not the same across all areas, and the pattern that may be found looking at decile and location is not the same for all types of school) and, secondly, because of the computer memory requirements to fit such models.

Many of the interactions that were significant at the 5 percent level were difficult to interpret, as they were based on what appeared to be random variation across categories, therefore we report fully only interactions that were significant at the 1 percent level (Appendix K). In this chapter we describe those interactions that are relevant to our research question about equity issues in the provision of, and access to, Reading Recovery.

In the models we identified the variables and interactions between variables that accounted for the most variability in the variable of interest (outcome, number of lessons, or score).

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[21] We would expect the number of lessons to be approximately five times the number of weeks students had lessons, but this was not always the case. In addition, the number of lessons was only supposed to be given for those who had discontinued or been referred, but in fact it was given for a few others, and for a few students who had completed Reading Recovery it was missing, or incorrect (for example a value of zero).

There are two issues with respect to the data. Firstly, it may have been advisable to fit hierarchical models, as the data were clustered within teachers and within schools (there may be a marked teacher and school effect, where students having the same teacher or the same school are likely to perform more similarly than are students with a different teacher in the same school, or in different schools). The data were available, but we decided not to use hierarchical models given the time constraints, and that any data entry errors or missing data in the teacher or school identifiers would have an effect on the analysis, either by adding to the "noise" (errors) or reducing the sample size (missing data). The effect of *not* accounting for this structure in the data is to underestimate the variability in the data, which leads to finding "significant" differences which in fact are not, but there is little effect on the parameters estimated in the models. This is one reason why we used the 1 percent level rather than the 5 percent level when deciding on which interactions to include in the final model.

Secondly, the data are truncated, in that only the weakest fifth of the students in a school can begin Reading Recovery, and once the students reach a certain level of competence, they are discontinued. So there is a "ceiling" on both the initial and final scores. For the final score there were two ceilings, one for the students discontinued successfully, and one for those referred. It is difficult to model this as the cut-off scores are determined by the school, and the general achievement level in the schools (this varies noticeably, for example, when comparing the means across the decile groups). There is no generally defined ceiling. We chose to ignore this feature of the data, but our findings need to be interpreted with some caution, and to be seen as being indicative of possible differences.

Results

Because of the large number of observations, small differences in the group means were statistically significant. Were these differences always important or meaningful? Sometimes they were, where the differences were large, or formed a consistent trend (such as across decile groups), and sometimes they were not, where the differences were small, or varied apparently at random across groups. The latter case was relatively common in interaction effects (there may be, say, a decile by roll size interaction, but the pattern was not consistent across groups defined by size, nor those defined by decile).

Predicting outcome from initial information

Anand and Bennie (2004) note that students' initial scores are indicative but not predictive of their final outcome. We attempted to model the outcome, using the initial score, and personal and school characteristics.

We first used classification trees. The results indicated that the predictive power of any model would be extremely poor, as the statistics output indicated that the predictive power of a model with any of the variables was not much greater than that of a model with no variables, in other words, classifying by chance alone. This was borne out by the logistic regression. While the

model was statistically significant, it could accurately predict the outcome only 2 percent of the time.

That said, the model indicated that students were more likely to be referred (the probability that they would be referred was over 50 percent) if their Instructional Text Level scores were under about 5, their Burt Word Reading Test scores under 8, their Clay Writing Vocabulary scores under 12, they received less than 99 Reading Recovery lessons, they were at a decile 5 or 6 school, they were not at a school in a main urban area, they were male, they were Mäori or Other ethnicity, they were at a contributing or full primary school, or if they had not been registered in Reading Recovery for the first time that year. The Burt Word Reading Test scores at the time of referral were partly dependent on location, with the "critical score" for students at rural schools being about three times as high as that for students at the urban schools. This may reflect their lesser access to specialists.

Number of lessons

The number of lessons received by a child ranged from 1 to 194, with a mean of 79 (standard deviation of 26.50). Overall, students who were referred had more lessons (91) than those who were successfully discontinued (77).

To illustrate the relationship between the students' scores and the number of lessons they received, each student was classified according to whether they scored at or above, or below, the overall upper and lower quartile scores for each test (the quartiles for the initial Instructional Text Level scores were 2 and 6 and we counted how many scored less than 2, between 2 and 5, and 6 or more, for example).[22] The mean number of lessons was calculated for each of the nine categories defined this way (for example, below the first quartile in both initial and final scores, below the first quartile in the initial score, between the first and third quartile on the final score, etc.). The mean number of lessons received by the discontinued and referred students is given in Table 3. The corresponding numbers and percentages of students are in Table 4. The table shows that the 1513 discontinued students (23.9 percent of the discontinued students) who scored below the lower quartile of the initial test on average had 95.1 lessons. Of these students, 41.1 percent scored below the bottom quartile of the final test as well, and these students who achieved low scores on both tests had on average 96.9 lessons. By contrast, for the referred students, 688 scored below the lower quartile of the initial test. They had an average of 91.0 lessons. Of these students, 97.4 percent scored below the bottom quartile of the final test as well, and these students who achieved low scores on both tests had on average 90.6 lessons.

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[22]   As the cut-points were quintiles, overall about a quarter scored below 2, half from 2 to 5, and about a quarter 6 or more. However, as some students did score 2 or 6 exactly, the percentages in the groups are not exactly 25 or 50 percent. Also, the quintiles were calculated on *all* the scores of both the referred and discontinued students. The percentages in Table 4, for the discontinued and referred students separately, are further from the expected 25 or 50 percent, particularly those for the referred students.

For the discontinued students, there was a clear trend for the number of lessons to *decrease* with *increasing* initial score, and with *increasing* final score, for all tests. This pattern was shown most clearly for the Instructional Text Level scores, which are those shown in Table 4. The final scores of most of the referred students were below the first quartile, as were nearly three-quarters of their initial scores. For the referred students, the number of lessons they received tended to *decrease* with *increasing* initial score, but to *increase* with *increasing* final score, perhaps in an attempt to avoid the need for a referral.

Table 3 **Mean number of lessons received by discontinued and referred students grouped by their initial and final Instructional Text Level score**

	Mean number of lessons			
Final score ➜	Bottom quartile group	Middle 2 quartile groups	Top quartile group	Overall mean
Initial score ⬇	0–16	17–19	20–30	
Discontinued students				
Bottom quartile group 0–2	96.9	94.5	92.3	95.1
Middle 2 quartile groups 3–6	79.6	79.7	77.2	79.3
Top quartile group 7–20	51.7	57.9	57.4	57.4
Overall mean	83.8	77.9	69.2	77.5
Referred students				
Bottom quartile group 0–2	90.6	107.3	–	91.0
Middle 2 quartile groups 3–6	86.1	109.4	–	87.5
Top quartile group 7–20	77.4	85.7	–	79.0
Overall mean	89.3	106.3	–	–

Table 4 **Number and percentage of the initial score group[a] of discontinued and referred students grouped by their initial and final Instructional Text Level score**

Final score ➜		Bottom quartile group	Middle 2 quartile groups	Top quartile group	Overall
Initial score ⬇	*n*	0–16	17–19	20–30	
Discontinued students		n=1129	n=4119	n=1093	n=6341
Bottom quartile group 0–2	1513	30.7	62.4	6.9	23.9
Middle 2 quartile groups 3–6	3212	17.0	68.7	14.3	50.6
Top quartile group 7–20	1616	7.4	60.0	32.7	25.5
Overall	6341	17.8	65.0	17.2	100.0
Referred students		n=906	n=35	n=0	n=942
Bottom quartile group 0–2	688	97.4	2.6	–	73.0
Middle 2 quartile groups 3–6	238	94.1	5.9	–	25.3
Top quartile group 7–20	16	75.0	25.0	–	1.7
Overall	942	96.2	3.7	–	100.0

[a] The percentages in the body of the table sum to approximately 100 in each row. The percentages in the Overall row and column give the corresponding total percentages (for the row or column) for all discontinued or referred students.

The mean number of lessons received by discontinued and referred students is given in Table 5. An NS in the row next to the name of the variable or factor indicates that that factor was not significant in the final model; it was neither part of a significant interaction nor a main effect.

Table 5　**Mean number of lessons received by discontinued and referred students**

	Mean number of lessons					
	Referred students			Discontinued students		
Factor	*n*	Mean	SD	*n*	Mean	SD
Gender		NS				
Female	257	87.7	26.88	2188	75.3	25.89
Male	685	89.8	26.83	4141	78.7	26.11
Ethnicity		NS				
Mäori	322	87.2	28.92	1635	78.4	26.25
Pasifika	124	82.3	24.36	716	81.9	24.73
Asian	20	95.7	23.19	255	72.4	23.19
NZ European/other	472	93.3	25.58	3715	76.7	26.33
Status at start of year						
Carried over	378	93.0	24.96	1791	88.1	25.42
From another school	40	96.8	26.77	201	82.7	25.67
New in this school	524	87.0	27.87	4337	72.8	25.01
School roll						
Up to 52	29	86.6	23.75	150	77.6	28.47
53–104	92	93.5	28.70	528	74.0	27.41
105–199	218	90.2	30.04	1531	77.0	27.52
200–299	197	89.0	27.40	1387	78.4	26.11
300 or more	406	89.5	24.52	2736	78.0	24.76
Authority		NS			NS	
State	864	89.8	26.83	5604	77.8	25.87
State-integrated	78	90.3	27.41	728	75.2	27.51
Decile						
1–2	255	84.8	28.53	1270	80.5	26.70
3–4	208	85.3	24.49	1232	79.1	25.55
5–6	195	95.2	26.47	1085	78.6	25.83
7–8	142	92.8	27.45	1251	75.1	26.42
9–10	142	95.1	24.48	1494	74.8	25.46
Location						
Main urban centres	611	88.9	26.35	4373	77.3	25.65
Secondary urban centres	72	91.8	32.00	421	80.9	24.18
Minor urban centres	100	84.6	26.47	595	78.6	26.75
Rural areas	159	95.7	25.70	943	76.0	28.21
Type						
Contributing	534	90.3	26.68	3555	78.6	25.59
Full primary	400	89.2	27.13	2685	75.8	26.53
Composite	8	94.1	28.44	92	83.6	28.24
Percentage Mäori enrolment		NS				
Under 8 percent	163	93.5	22.74	1486	74.1	24.67
8–14 percent	201	94.5	29.88	1543	77.4	26.59
15–29 percent	313	90.8	25.47	1846	78.9	25.69
30 percent or more	265	82.9	27.15	1457	79.2	27.09

Discontinued students

The model for discontinued students accounted for 34 percent of the variability in the number of lessons. The findings were that:

- On average boys had slightly more lessons than girls (79 compared with 75). This difference was the same, regardless of the other factors (there was no statistically significant interaction).
- Pasifika children had the most lessons (82), next Māori (78), and Asian had the fewest (72).
- Overall the number of lessons decreased with increasing decile (from 80 in decile 1–2 schools to 75 in decile 9–10 schools).
- Overall the average number of lessons received was similar, regardless of whether the students attended a school in a major urban area, a secondary, or minor urban area, or a rural school. However:
  - In main urban schools, the number of lessons in decile 1–2 schools was the highest (82), and in decile 9-10 schools was the lowest (76); the decrease in number of lessons was relatively constant by increasing decile.
  - In schools in other areas, this pattern was not as regular.
  - In decile 1–2 schools, there was a marked decrease in the number of lessons, with decreasing population: in secondary urban and main urban schools students had on average 82 lessons, but in rural and minor urban schools they had an average of 78 and 75 lessons, respectively.
- The number of lessons in state and state-integrated schools was the same.
- Students at composite schools had on average the most lessons (84) and those in full primary schools the fewest (76).
- Overall, the number of lessons varied very little by school roll.
- Overall, the number of lessons increased with increasing percentage of Māori enrolment in the school (from 74 where Māori were under 8 percent to 79 where over 30 percent of the students were Māori). The results from the survey indicated that this could reflect the high number of trainee teachers in the schools with a high Māori enrolment.
- Students who began the year having been carried over from the previous year received the most lessons (88), and those who started new in Reading Recovery in 2003 the fewest (73).
- On the whole, the students who made the most gain (those with the biggest difference between their initial and final scores) had the most lessons, and this was true for each set of scores. For the Instructional Text Level, there was on average an increase of 4.33 lessons for every single unit increase in gain; for the Burt Word Reading Test there was an increase of 2.12 lessons for every single unit increase in gain; for the Clay Writing Vocabulary there was an increase of 0.16 lessons for every unit increase in gain—however, the scores on this test have higher values than those on the other tests, so these rates must be interpreted with caution.
- For the two reading test scores, the increase in the number of lessons per unit gain was modified by the value of the other score: if the gain on both scores was relatively low, the student would have relatively few lessons; if one score was low and the other was high, the

student would have more lessons, but this gradient[23] was slightly modified in that it would be slightly flatter the higher the combined scores.

Referred students

The model for referred students accounted for 39 percent of the variability in the number of lessons. The findings were that:

- Students who began the year having been carried over from the previous year received the most lessons (93), and those who started new in Reading Recovery in the school the fewest (87).
- The number of lessons was lowest in decile 1–4 schools (about 85), and higher in decile 5–10 schools (about 94) indicating that students in low decile schools got referred faster.
- Māori and Pasifika students who were referred received fewer lessons than other referred students. This pattern was relatively constant across school decile. Māori and Pasifika students who had low initial scores received fewer lessons compared with other students who had low initial scores.[24]
- The number of lessons was lowest in minor and main urban schools (85 and 89, respectively) and highest in rural schools (96).
- The number of lessons was higher in composite schools (94) than in contributing or full primary schools (about 89).
- On the whole, the students who made the most gain (those with the biggest difference between their initial and final scores) had the most lessons, and this was true for each set of scores, separately. For the Instructional Text Level, there was on average an increase of 4.41 lessons for every single unit increase in gain; for the Burt Word Reading Test there was an increase of 2.14 lessons for every single unit increase in gain. The Clay Writing Vocabulary did not add significantly to the model. For the two reading test scores, the increase in the number of lessons per unit gain was modified by the value of the other score: if the gain on both scores was relatively low, the student would have relatively few lessons; if one score was low and the other was high, the student would have more lessons, but this gradient was slightly modified in that it would be slightly flatter the higher the combined scores.

Accounting for variability in scores

Overall, we can say that the initial score and the school factors accounted for the most variability in the model (see Table 6). For the referred students the school factors accounted for slightly more variability than they did for the discontinued students.

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[23] By "gradient" we mean a tendency for a score to increase (or decrease) relatively consistently or regularly as another variable (in this case the other test score) changes value. The gradient is the slope of that change. So if one variable changes a lot as the other changes, the gradient would be "steep", and if it changes a little, the gradient would be "shallow" or "flat" or "less steep".

[24] An examination of the data by number of weeks showed that Māori and Pasifika students received fewer lessons in fewer weeks.

The percentages should be interpreted with caution. They are indicative of the relative importance of the different groups of factors, but are not accurate measures of the relative importance. They are not additive. The models for the personal and school factors can be compared to see how much the new variables add to the variability explained by the initial score only model.

Table 6   **Percentage of variability[25] in the number of lessons accounted for by each model**

Model	Referred students	Discontinued students
Initial scores	34.2	27.1
Personal factors (ethnicity and gender)	2.2	0.9
School factors (decile, type, authority, location, school roll, percentage of Mäori enrolment)	7.8	2.2
Combined model	39.1	34.2

Test scores

We found that differences between test scores across the different ethnic groups were far more pronounced in the initial scores than the final scores of discontinued students. There were no statistically significant effects by ethnicity for the discontinued students, other than an interaction between school roll and ethnicity for the Clay Writing Vocabulary. There were no statistically significant differences by ethnicity for the referred students. In the same way, differences between students in low decile schools and those in high decile schools were more pronounced in the initial scores than in the final scores. This was truer for the discontinued students, particularly on the two reading tests, than for the referred students. The scores of the referred students tended to show less of a gradient across decile groups on the initial scores, but there was a marked tendency for the final score to increase with increasing decile. It would seem that access to Reading Recovery, or completion of Reading Recovery, lessened the inequities between the groups among the discontinued students, but this may not be as true for the referred students.

Because of the large number of observations, small differences in the group means were statistically significant. For example, for the difference between the two initial Instructional Text Level scores, gender differences were significant. The means concerned were 4.35 for males and 4.54 for females. The 95 percent confidence intervals for these point estimates were 4.21 to 4.49 for males and 4.40 to 4.68 for females.[26] Were these differences always important or meaningful? Sometimes they were, sometimes they were so small as to not be meaningful.

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[25]   Adjusted R^2 which adjusts the raw R^2 for the number of parameters fitted. For example, for the combined model for the discontinued students, the raw $R^2 = 34.97$ and the adjusted $R^2 = 34.20$.

[26]   These confidence intervals (calculated using the sample mean and standard deviation), overlap, and looked at in isolation we would conclude that there was no statistically significant difference in scores between boys and girls. However, the gender effect in the linear model *was* significant ($p < 0.01$, testing the significance of gender when fitted last to the model), so we can say that there were gender differences when the other variables had been controlled for. Why the difference? The sample standard errors used to calculate the confidence intervals include the variability accountable for by the other factors that were significant in the model; the model uses the residual standard error, or the error left

The results for each test are presented in two tables. The first gives the observed means and standard deviations for each factor included in the model, and indicates which effects were not significant. The second summarises the percentage of variability in the score that is accounted for by the covariates (initial score and number of lessons), "personal factors", or attributes of the student (gender, ethnicity), Reading Recovery factors (status at the start of the year, and number of lessons), by "school factors", or attributes of the school (decile, type, authority, location, percentage Mäori enrolled, size of the school), and by a model that combines all factors.

Instructional Text Level

The means for the initial and final Instructional Text Level scores are given in Table 7 for the discontinued and referred students.

Some obvious trends can be seen for some of the factors. Some of these marginal trends (trends in one factor across all levels of all the other factors) are modified by the interactions in ways that are discussed in Appendix K.

- **Ethnicity**: On average, the initial scores of Mäori and Pasifika students were lower than those of Asian or New Zealand European/other students. This difference persisted in the final scores, and was more marked for the referred students than the discontinued students, for whom the difference between ethnic group means was relatively slight.
- **Authority**: Both discontinued and referred students at state-integrated schools had higher initial and final mean scores than those at state schools. The relative difference between the mean scores was smaller for the final scores.
- **Decile**: There is a marked gradient across the decile groups among the discontinued students, with students at lower decile schools obtaining lower initial and final scores than those at higher decile schools. There is no clear "gradient" in initial score across decile groups among referred students, although the decile 1–2 students had the lowest mean score, and decile 9–10 students the highest. There is a clear gradient in the final scores of these students, and it is relatively more marked than that for the mean final scores of the discontinued students.
- **Location**: The mean initial scores of both discontinued and referred students tend to increase with decreasing population. There is little difference in the final scores, although the referred students with the highest mean score were those in the rural areas.
- **Type**: The mean initial scores for discontinued and referred students at contributing schools were the lowest, but there was little difference in final score across the different types of schools, although referred students at composite schools had the highest mean score.
- **Percentage Mäori on the roll**: The mean initial scores of discontinued and referred students at schools with low Mäori enrolment were the highest, and these scores decreased with increasing Mäori enrolment. The final scores of all discontinued students were all

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after these other differences have been accounted for. Confidence intervals calculated using the residual standard error would be narrower, and not overlap.

approximately equal, although there was still a slight gradient where the scores decreased slightly with increasing Mäori enrolment. The gradient for the referred students was as marked in the final scores as in the initial scores.

A NS in the line next to a factor name indicates that this factor did not add significantly to the model. For example, gender did not add significantly to either model for the final scores. A factor is counted as being significant if it was involved in a significant interaction (for instance, the interaction between authority and percentage Mäori enrolment for the final score for the referred students), or, if it was not involved in an interaction, if the factor alone was significant. Factors involved in significant interactions may not appear on their own to be significant, for example for the referred students, overall the mean final Instructional Text Level score for those at state schools was approximately equal to that of students at state-integrated schools (both 10.6). What the interaction showed was that there was a trend for the score to decrease with increasing percentage of Mäori enrolment for students at state schools (from a mean of 12.5 in schools with under 8 percent Mäori enrolment to one of 10.5 in schools with 15–29 percent Mäori enrolment and 9.2 in schools with at least 30 percent Mäori enrolment), but the trend was less marked for students at state-integrated schools (10.6 for schools with under 8 percent Mäori enrolment to 9.7 for schools with 15–29 percent Mäori enrolment; there were too few students in state-integrated schools with higher Mäori enrolment to report that mean).

An NI in the line next to a factor name indicates that this factor was not included in a particular model. For example, status was not included in the model for initial scores.

Note that a single model was fitted to the initial scores of all students, but separate models were fitted to the final scores of discontinued and referred students.

The model for the final scores of the referred students is considerably simpler than the equivalent model for the discontinued students, in that it involves fewer variables, yet it accounted for a greater percentage of the variability in these scores. Gender explained a significant amount of the variability in the model for the initial scores, but not in those for the final scores.

Table 7 **Instructional Text Level scores for discontinued and referred students**

| | Referred Students | | | | | Discontinued students | | | | |
| | Initial score[a] | | Final score | | | Initial score | | Final score | | |
Factor	n	Mean	SD	Mean	SD	n	Mean	SD	Mean	SD
Gender				NS					NS	
Female	257	1.8	1.58	10.4	4.09	2188	4.9	2.95	18.0	1.68
Male	685	1.9	1.69	10.6	3.78	4141	4.8	2.95	18.0	1.64
Ethnicity				NS					NS	
Mäori	322	1.7	1.63	10.2	3.90	1635	4.4	2.85	17.7	1.62
Pasifika	124	1.7	1.42	9.6	3.85	716	3.7	2.63	17.6	1.56
Asian	20	1.8	1.74	11.5	3.07	255	4.5	2.98	18.1	1.68
NZ European/other	472	2.1	1.72	11.0	3.80	3715	5.2	2.97	18.2	1.66
Status at start of year		NI		NS						
Carried over	378	2.0	1.63	11.0	3.76	1791	4.4	2.64	17.8	1.56
From another school	40	2.7	1.97	11.6	3.02	201	4.2	2.89	18.1	1.76
New in this school	524	1.8	1.64	10.2	3.96	4337	5.0	3.05	18.0	1.68
School roll				NS						
Up to 52	29	2.2	2.20	10.9	3.77	150	2.5	3.47	17.9	1.88
53–104	92	2.1	1.85	10.5	3.99	528	5.6	3.24	18.2	1.72
105–199	218	2.0	1.63	10.5	3.98	1531	5.0	3.05	18.1	1.64
200–299	197	1.9	1.81	10.8	3.90	1387	4.7	2.88	18.0	1.64
300 or more	406	1.8	1.49	10.5	3.78	2736	4.5	2.80	17.9	1.64
Authority										
State	864	1.9	1.66	10.6	3.85	5604	4.7	2.92	17.9	1.65
State-integrated	78	2.1	1.64	10.6	4.06	728	5.3	3.16	18.3	1.66
Decile				NS						
1–2	255	1.7	1.51	9.6	3.78	1270	3.9	1.68	17.5	1.49
3–4	208	1.9	1.61	10.0	3.57	1232	4.4	2.78	17.7	1.52
5–6	195	2.0	1.78	11.1	4.01	1085	4.9	2.86	18.0	1.55
7–8	142	1.9	1.76	11.1	3.82	1251	5.3	3.08	18.2	1.65
9–10	142	2.1	1.69	11.9	3.73	1494	5.4	3.04	18.5	1.80
Location				NS						
Main urban centres	611	1.8	1.56	10.3	3.81	4373	4.6	2.89	18.0	1.64
Secondary urban centres	72	1.9	1.57	10.8	3.94	421	4.8	2.77	17.9	1.69
Minor urban centres	100	2.1	1.70	10.3	4.27	595	5.0	3.02	17.8	1.61
Rural areas	159	2.3	1.95	11.6	3.63	943	5.4	3.18	17.9	1.73
Type		NS		NS						
Contributing	534	1.9	1.65	10.7	3.75	3555	4.5	2.80	17.9	1.64
Full primary	400	1.9	1.65	10.3	4.00	2685	5.1	3.12	18.1	1.68
Composite	8	2.4	2.33	13.0	3.78	92	4.9	2.79	17.5	1.52
Percentage Mäori enrolment										
Under 8 percent	163	2.3	1.78	12.2	3.40	1486	5.3	3.04	18.3	1.76
8–14 percent	201	2.0	1.78	11.0	3.94	1543	5.1	3.05	18.2	1.65
15–29 percent	313	1.9	1.59	10.5	3.86	1846	4.6	2.81	17.9	1.60
30 percent or more	265	1.6	1.52	9.3	3.68	1457	4.2	2.79	17.5	1.52

a   Although the means for the initial scores are quoted separately for the discontinued and referred students, the model fitted
to the initial scores was fitted to all the scores, without distinguishing between these two possible outcomes.

NS: The variable is significant neither as a main effect nor as part of an interaction.

NI: The variable was not included in the model.

The models for the final scores account for more of the variability in the score than does the model for the initial scores (see Table 8). This is because the variability in the initial score alone accounts for about an eighth of the variability in the final scores. For the initial score more variability is accounted for by the school factors (the only personal factors available were ethnicity and gender), while for the final score it was the Reading Recovery variables that accounted for the most variability (status at the start of the final year in Reading Recovery, and number of lessons).

The percentages should be interpreted with caution. They are indicative of the relative importance of the different groups of factors, but are not accurate measures of the relative importance. They are also not additive.

Overall, we can say that for the discontinued students the initial score and the school factors accounted for the most variability in the model. For the referred students it was the Reading Recovery variables that accounted for the most variability.

Table 8 **Percentage of variability in Instructional Text Level scores accounted for by each model**

Model	Initial score	Final score discontinued	Final score referred
Initial score	–	12.4	11.4
Personal factors (ethnicity and gender)	3.3	1.9	1.6
Reading Recovery factors (status and number of lessons)	–	3.2	25.1
School factors (decile, type, authority, location, school roll, percentage of Mäori enrolment)	6.7	10.0	9.2
Combined model	7.5	19.6	43.4

One of the most marked differences between the discontinued and referred students is that among the referred students, the final score *increased* with increasing number of lessons, but for the discontinued students, the final score *decreased* with increasing number of lessons (the students who received more lessons included those who achieved relatively low final scores, but among those who received relatively few lessons, were some who achieved high final scores). The other difference is in the range of final scores, which is about 0–20 for the referred students, and 13–30 for the discontinued students.

Burt Word Reading Test

The means for the initial and final Burt Word Reading Test scores are given in Table 9. Some obvious trends can be seen for some of the factors. Some of these marginal trends (trends in one factor across all levels of all the other factors) are modified by the interactions in ways that are discussed in Appendix K.

- **Ethnicity**: The mean initial scores of Mäori and Pasifika students were lower than those of Asian or New Zealand European/other students. This difference persisted in the final scores of the referred students, but not in those of the discontinued students.
- **Decile**: There is a marked gradient across the decile groups, with students at lower decile schools obtaining lower mean initial and final scores than those at higher decile schools. For the final scores, the gradient was more marked for the referred students than the discontinued students.
- **Percentage Mäori enrolment**: The mean initial scores of students at schools with low Mäori enrolment were the highest, and these scores decreased with increasing Mäori enrolment. The mean final scores were more similar, but still showed a gradient. This gradient in the final scores was far more marked for the referred students than the discontinued students, for whom it was very slight.
- **Location**: The mean initial scores tend to increase with decreasing population, but there was little difference in the final scores of the discontinued students. For the referred students, those in main urban areas still had the lowest mean score and those in rural areas the highest.
- **School roll**: There was little difference in mean initial or final score of discontinued students at different size schools. The final score of the referred students was slightly higher for students in smaller centres than it was for those in main urban centres, and there was less difference in their initial scores.
- **Type**: The mean initial scores for students at contributing schools were the lowest, but there was little difference in final score across the different types of schools.
- **Authority**: Students at state-integrated schools had higher mean initial and final scores than those at state schools. This difference was slightly greater amongst discontinued students than referred students.

Table 9   **Burt Word Reading Test scores for discontinued and referred students**

| | Referred students | | | | | Discontinued students | | | | |
| | Initial score[a] | | Final score | | | Initial score | | Final score | | |
Factor	n	Mean	SD	Mean	SD	n	Mean	SD	Mean	SD
Gender				NS					NS	
Female	257	4.5	3.74	15.8	6.95	2188	10.9	5.92	27.5	4.22
Male	685	4.2	3.58	15.4	6.48	4141	10.3	5.97	27.4	4.61
Ethnicity									NS	
Mäori	322	3.8	3.62	14.9	6.63	1635	9.3	5.86	27.3	4.69
Pasifika	124	3.6	3.49	14.1	6.72	716	8.8	5.66	27.0	4.28
Asian	20	4.4	3.25	18.7	5.16	255	11.2	6.07	28.0	3.98
NZ European/other	472	4.8	3.62	16.1	6.48	3715	11.3	5.88	27.6	4.44
Status at start of year		NI							NS	
Carried over	378	4.8	3.61	16.3	6.64	1791	9.6	5.40	27.1	4.51
From another school	40	4.9	4.03	16.9	5.21	201	9.3	5.73	27.5	4.35
New in this school	524	3.8	3.55	14.8	6.61	4337	11.0	6.13	27.6	4.47
School roll										
Up to 52	29	4.4	4.31	16.2	7.98	150	10.8	6.83	27.6	5.25
53–104	92	3.9	3.60	16.3	6.71	528	11.7	6.54	27.7	5.05
105–199	218	4.4	3.74	15.0	6.72	1531	10.7	5.99	27.7	4.69
200–299	197	4.7	3.71	15.8	6.53	1387	10.4	5.92	27.6	4.21
300 or more	406	4.1	3.46	15.3	6.46	2736	10.3	5.76	27.3	4.33
Authority										
State	864	4.2	3.52	15.4	6.54	5604	10.3	4.21	27.4	4.47
State -integrated	78	4.8	4.66	15.9	7.33	728	12.0	4.77	28.3	4.46
Decile										
1–2	255	3.5	3.19	13.8	6.33	1270	8.7	3.51	27.1	4.46
3–4	208	4.2	3.54	14.3	6.04	1232	9.6	4.18	27.2	4.58
5–6	195	4.9	4.02	16.6	6.61	1085	10.7	4.87	27.3	4.24
7–8	142	4.6	3.80	16.5	6.85	1251	11.5	4.61	27.5	4.68
9–10	142	4.5	3.55	17.7	6.64	1494	11.9	4.52	28.1	4.35
Location										
Main urban centres	611	4.0	3.40	15.0	6.44	4373	10.4	5.94	27.5	4.33
Secondary urban centres	72	4.6	3.66	15.9	6.51	421	10.7	5.26	27.6	4.56
Minor urban centres	100	4.3	4.12	15.2	7.09	595	10.7	5.84	27.5	5.06
Rural areas	159	5.1	4.01	17.3	6.73	943	11.2	6.37	27.3	4.74
Type		NS								
Contributing	534	4.2	3.54	15.6	6.49	3555	10.1	5.78	27.3	4.35
Full primary	400	4.4	3.75	15.2	6.76	2685	11.1	6.15	27.7	4.66
Composite	8	3.0	3.07	17.6	7.27	92	10.1	5.73	26.9	4.01
Percentage Mäori enrolment										
Under 8 percent	163	5.2	3.67	18.4	6.22	1486	12.0	6.03	27.9	4.51
8–14 percent	201	4.5	3.94	16.8	6.87	1543	11.2	5.95	27.7	4.37
15–29 percent	313	4.3	3.47	14.8	6.28	1846	9.9	5.79	27.2	4.28
30 percent or more	265	3.4	3.36	13.5	6.20	1457	9.1	5.67	27.2	4.76

a   Although the means for the initial scores are quoted separately for the discontinued and referred students, the model fitted to the initial scores was fitted to all the scores, without distinguishing between these two possible outcomes.

NS: The variable is significant neither as a main effect nor as part of an interaction.

NI: The variable was not included in the model.

The models for the final scores account for considerably more of the variability in the score than does the model for the initial scores (see Table 10). This is because the variability in the initial score alone accounts for up to a quarter of the variability in the final scores.

Table 10 **Percentage of variability in Burt Word Reading Test scores accounted for by each model**

Model	Initial score	Final score discontinued	Final score referred
Initial score	–	14.2	24.0
Personal factors (ethnicity and gender)	3.9	0.3	1.5
Reading Recovery factors (status and number of lessons)	–	2.1	16.1
School factors (decile, type, authority, location, school roll, percentage of Mäori enrolment)	6.9	5.2	13.4
Combined model	7.8	17.5	47.7

The number of lessons alone accounted for very little of the variability in the final score of the discontinued students, but for a considerably larger proportion of the variability in final score of the referred students. As in the Instructional Text Level, the Reading Recovery factors accounted for a large proportion of the variability in the final score of the referred students. The school factors also contributed to the variability.

Clay Writing Vocabulary

The means for the initial and final Clay Writing Vocabulary scores are given in Table 11. Some obvious trends can be seen for some of the factors. Some of these marginal trends (trends in one factor across all levels of all the other factors) are modified by the interactions in ways that are discussed in Appendix K.

- **Ethnicity**: The mean initial scores of Mäori and Pasifika students were lower than those of Asian or New Zealand European/other students. This difference was less marked in the final scores of the discontinued students, but persisted in those of the referred students.
- **Decile**: There is a marked gradient across the decile groups, with students at lower decile schools obtaining lower mean initial scores than those at higher decile schools. The difference persisted in the final scores of the referred students, but not in those of the discontinued students.
- **Percentage Mäori enrolment**: The mean initial scores of students at schools with low Mäori enrolment were the highest, and these scores decreased with increasing Mäori enrolment. The mean final scores of discontinued students were all approximately equal. The mean final scores of referred students decreased with increasing Mäori enrolment.
- **Location**: The mean initial scores tend to increase with decreasing population, there is little difference in the final scores of discontinued students, but there was a trend for the final score of referred students to increase with decreasing population.

- **Type**: The mean initial scores for students at contributing schools were the lowest, and those at composite schools were the highest. This difference persisted for the final scores of discontinued students, but not for those of referred students.
- **Authority**: Students at state-integrated schools had higher mean initial scores than those at state schools. The difference persisted in the final scores of discontinued students, but not in those of referred students.

Table 11 **Clay Writing Vocabulary scores for discontinued and referred students**

	Referred students					Discontinued students				
	Initial score[a]			Final score		Initial score			Final score	
Factor	*n*	Mean	SD	Mean	SD	*n*	Mean	SD	Mean	SD
Gender				NS						
Female	257	10.1	7.97	33.3	15.62	2188	22.2	11.8	57.0	13.92
Male	685	8.6	6.72	30.7	13.70	4141	19.3	10.8	53.0	12.54
Ethnicity										
Mäori	322	8.4	6.68	31.3	14.67	1635	19.3	11.42	54.9	13.78
Pasifika	124	8.2	7.15	29.3	15.30	716	17.0	10.92	54.9	12.80
Asian	20	7.0	5.37	36.3	13.14	255	21.2	11.55	56.9	15.32
NZ European/other	472	9.7	7.41	31.8	13.66	3715	21.4	11.04	53.9	12.78
Status at start of year		NI		NS						
Carried over	378	10.2	7.07	32.9	14.29	1791	19.8	10.84	53.9	13.23
From another school	40	10.6	7.10	33.2	12.97	201	17.9	10.44	55.7	13.78
New in this school	524	8.0	7.00	30.2	14.29	4337	20.7	11.42	54.5	13.12
School roll				NS						
Up to 52	29	8.1	6.22	34.8	14.12	150	20.6	11.83	55.0	14.71
53–104	92	8.6	6.73	31.8	13.02	528	21.9	11.56	54.5	13.17
105–199	218	8.5	6.73	29.2	13.95	1531	20.0	10.80	54.5	13.33
200–299	197	9.7	8.20	32.0	15.03	1387	20.3	11.14	54.9	13.99
300 or more	406	9.0	6.89	32.0	14.31	2736	20.2	11.41	54.0	12.54
Authority										
State	864	8.9	7.01	31.4	14.03	5604	20.1	11.1	54.1	13.07
State -integrated	78	10.0	8.11	31.6	16.94	728	22.2	11.8	56.4	13.74
Decile				NS						
1–2	255	7.7	6.01	28.8	13.93	1270	17.3	10.92	54.3	13.51
3–4	208	8.9	6.84	29.9	13.78	1232	19.1	11.10	55.1	13.24
5–6	195	10.5	8.10	33.6	13.86	1085	21.2	11.17	54.3	13.16
7–8	142	8.9	7.76	32.5	14.64	1251	21.3	11.22	53.5	13.38
9–10	142	9.6	6.83	34.3	14.94	1494	22.4	11.05	54.8	12.60
Location				NS						
Main urban centres	611	8.7	6.76	31.9	14.18	4373	20.0	11.13	54.6	12.73
Secondary urban centres	72	9.8	7.74	31.5	14.83	421	20.5	10.45	51.7	13.62
Minor urban centres	100	9.3	8.43	29.6	15.18	595	20.6	12.06	54.0	14.07
Rural areas	159	9.6	7.22	34.2	13.59	943	21.5	11.47	54.7	14.23
Type									NS	
Contributing	534	9.0	7.09	31.7	14.34	3555	19.8	10.94	53.8	13.01
Full primary	400	8.9	7.07	31.0	14.26	2685	21.0	11.58	55.0	13.37
Composite	8	13.2	10.59	31.0	12.82	92	20.4	11.79	58.2	12.05
Percentage Mäori enrolment										
Under 8 percent	163	10.1	6.89	35.4	14.51	1486	22.0	11.12	54.0	12.93
8–14 percent	201	9.7	8.03	33.1	14.99	1543	21.7	11.39	54.7	13.48
15–29 percent	313	8.9	6.97	31.3	13.25	1846	19.4	11.18	54.5	12.72
30 percent or more	265	7.8	6.51	28.9	14.17	1457	18.5	10.86	54.4	13.64

[a]   Although the means for the initial scores are quoted separately for the discontinued and referred students, the model fitted
to the initial scores was fitted to all the scores, without distinguishing between these two possible outcomes.

NS: The variable is significant neither as a main effect nor as part of an interaction.

NI: The variable was not included in the model.

The models for the final scores account for considerably more of the variability in the score than do the models for the initial scores (see Table 12). This is because the variability in the initial score alone accounts for about a quarter of the variability in the scores of the referred students. As in the other tests, the model for the referred students accounts for more of the variability in the final score than does the model for the discontinued students.

Table 12 **Percentage of variability for Clay Writing Vocabulary scores accounted for by each model**

Model	Initial score	Final score discontinued	Final score referred
Initial score	–	13.4	25.6
Personal factors (ethnicity and gender)	3.7	2.2	0.7
Reading Recovery factors (status and number of lessons)	–	1.1	9.5
School factors (decile, type, authority, location, school roll, percentage of Mäori enrolment)	4.8	3.8	5.9
Combined model	7.3	19.1	38.8

Trends in initial scores across tests

Students' initial scores show a complex pattern of variation relating to student and school characteristics. Some of the key variations are commented on below.

- Females on average scored slightly more than males on the initial tests. This difference was least marked in the Instructional Text Level score.
- Mäori and Pasifika students had on average the lowest scores; Asian and New Zealand European students had higher scores (approximately 33 percent higher[27] than the scores of Pasifika students).
- Instructional Text Level and Burt scores were slightly lower in larger schools (those with at least 200 students).
- Mean scores of students in state-integrated schools were typically nearly 20 percent higher than those in state schools.

On average, the mean scores of students increased with:

- increasing decile (scores of decile 9–10 students were about 40 percent higher than those of decile 1–2 students);
- decreasing population in the centre their school was in. The mean score of students at rural schools was about 10 percent higher than that of those in main urban areas;

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[27] This comparison (and similar ones that follow) means that the mean score of the New Zealand European students was about 1.33 times as big as the mean score of the Pasifika students.

- decreased percentage of Mäori enrolment. The mean score of students at schools with under 8 percent Mäori on the roll was about 30 percent higher than the scores of students at schools with 30 percent or more Mäori students on the roll; and
- decreasing school roll in the Instructional Text Level and Burt Word Reading Test. The mean score of students at schools of under 52 students was 5–10 percent higher than that of students at schools of at least 300 students.

There is a measure of overlap between low decile schools, high percentage Mäori enrolment schools, and school roll.

These overall tendencies were modified by interactions between characteristics, many of which were not germane to the research questions, were too complex to be obviously meaningful, or involved relatively minor variations. Those interactions that are relevant or meaningful are described below:

- Pasifika students in large (300+) schools had particularly low mean scores on the two reading tests, but had relatively high scores on the Writing Vocabulary test.
- Asian students performed relatively well on the Burt test, and not so well on the Writing Vocabulary test.
- Students in schools with at least 30 percent Mäori on the roll in main urban or rural schools had particularly low scores on all tests.

Trends in final scores across tests

Discontinued students
Students' final scores showed less variation relating to student and school characteristics. Some of the key changes are commented on below.

- A slight gender difference persisted.
- Differences by ethnicity were still observed, but were greatly reduced. The mean scores of New Zealand European students were about 3 percent higher than those of Pasifika students.
- There was no overall difference in mean final score across schools of different size.
- The mean scores of students at state-integrated schools were still higher, but only by about 3 percent.
- On average there was still a tendency for scores to increase with increasing decile, but the mean scores of students at decile 9–10 schools were under 5 percent higher than those at decile 1–2 schools.
- On average there was no difference in scores between students in different size population centres.
- There was no real difference between mean scores of students at different types of school.
- On average there was no tendency for scores to decrease with increasing Mäori enrolment.

These overall tendencies were modified by interactions, with some of the more important being:

- In state schools the tendency for mean final scores to decrease with increasing decile was marked, with the final scores of students in decile 9–10 schools being on average about 4 percent higher than those in decile 1–2 schools. In state-integrated schools, however, decile 1–2 students had final scores that were approximately equal to those in decile 7–10 schools in the reading tasks.
- Students from very small low decile schools had relatively high final scores, especially in the Writing Vocabulary test. Students from very small high decile schools had relatively low final scores. The gradient across decile groups tended to be strongest in schools of at least 300 students.
- The tendency for mean scores to rise with rising decile group was only observed in schools with moderate percentage Mäori enrolment.

Referred students
- There was no gender difference.
- Differences by ethnicity persisted, with the scores of New Zealand European/Other students being about 20 percent higher than those of Pasifika students.
- There was no overall difference in mean final score by school roll.
- There was no difference by authority.
- The mean scores of students at decile 9–10 schools who were referred were about 20 percent higher than those of students at decile 1–2 schools.
- The mean scores of students at schools in rural areas were about 12 percent higher than those in schools in main urban areas.
- There was no real difference in mean scores of students at different types of school.
- The mean scores of students at schools with a low percentage of Mäori enrolment were about 27 percent higher than those of students at schools with a high percentage of Mäori enrolment.

These overall tendencies were modified by interactions, with some of the more important being:

- The mean scores of students at state schools decreased with increasing percentage of Mäori enrolment. This trend was similar to that seen with the initial scores. There was a similar but less marked trend in the scores of students at state-integrated schools in some of the tests, but the trend was absent for those students in other tests.
- Overall, as in the initial scores, there was a strong gradient across decile groups. This tendency was more marked for students in minor urban schools than for those in other areas.

Increases in scores: The before and after

Is it possible to attribute the gains in student scores to Reading Recovery? Certainly, what is to be expected is that the scores of most children after about 20 weeks, regardless of whether or not they had received Reading Recovery, will be either approximately the same or higher than they were at the start of that time. Some may well be lower. It is also true that if the students measured were initially the lowest-scoring in the population, then some of the "increase" will be attributable

to regression to the mean. This is a statistical phenomenon whereby those with the lowest pre-test scores show a greater rate of improvement regardless of the amount of learning that occurred.

However, the situation we have in the Reading Recovery dataset suggests that what has happened is more than regression to the mean or expected progress without intervention (although it may still be the result of the efforts by a classroom teacher or some other intervention). The situation is similar for all three tests, and so is described in detail only for the Instructional Text Level scores.

The children's initial scores ranged from 0 to 20, with a lower quartile of 2, median of 4, and upper quartile of 6, and their final scores ranged from 0 to 30, with a lower quartile of 16, median of 18, and upper quartile of 20. The 13 percent of students who were referred had initial scores between 0 and 10 and final scores between 0 and 20. The 87 percent of students who were discontinued had initial scores between 0 and 20 and final scores between 11 and 30.

How the discontinued and referred students' scores were distributed above and below the median and quartiles on the initial test is shown in Table 13. Note that overall not exactly a quarter are in any category, as many achieved scores equal to the median or quartiles.

Table 13 **Distribution of initial scores for referred and discontinued students (percentages)**

Initial score	Referred students		Discontinued students		Total	
	n	%	*n*	%	*n*	%
Below the lower quartile (0–2)	688	73	1507	24	2195	30
Lower quartile to median (3, 4)	182	19	1811	29	1993	27
Median to upper quartile (5, 6)	56	6	1399	22	1455	20
Above upper quartile (7–20)	16	2	1615	26	1631	22
Total	942	100	6332	100	7274	99

How did the students then do on the final test? Did all the students who scored below the lower quartile in the initial test achieve similar results in the final test? Figure 1 helps illustrate the answer to these questions. The graph has a bar for each quartile group on the initial test, and each bar is divided into segments determined by the students' quartile group on the final test.

Twice as many students who began in the lowest quartile group were discontinued than referred. The shifts shown by the discontinued students tended to be more marked than those of the referred students. Seventy percent of the discontinued students increased their scores from 0–2 to 17–20.

Not surprisingly, most of the referred students scored below the median of 18 on the final test. However while the referred students tended to stay within the quartile they began some of these students still showed a marked improvement between tests, moving from a score in the region of 3 to 6 to one of nearly 20.

Figure 1 **Initial and final Instructional Text Level Scores for discontinued and referred students**
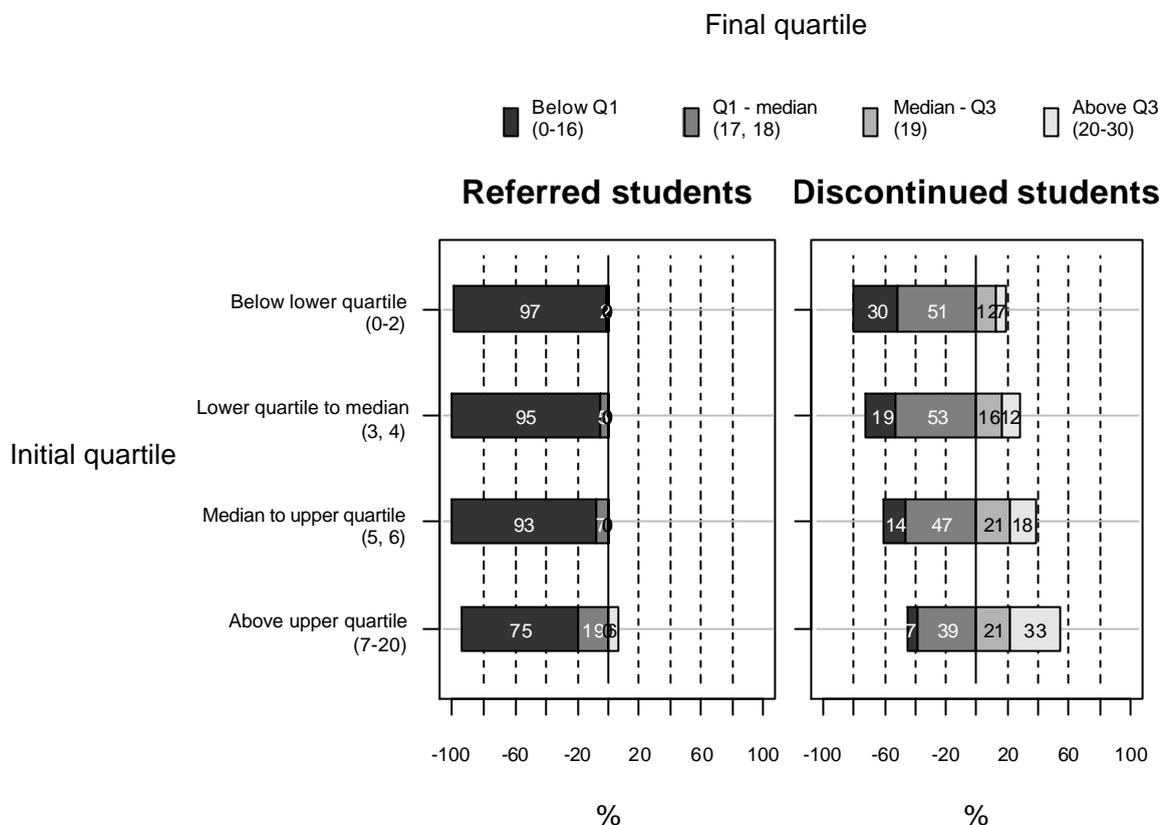
It is certainly impossible to attribute all shifts in scores to Reading Recovery, but it seems very unlikely that the observed changes in scores were all attributable to something other than Reading Recovery. We therefore think we can make the claim that gains were made by students in Reading Recovery across all school and student characteristics, indicating the intervention was effective for different students at different schools.

Effect sizes

To give an overview of the possible effects of Reading Recovery, and in particular for Māori and Pasifika students, we present some tables of effect sizes[28] for differences in group means (averages), ignoring all other explanatory variables, in three ways:

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[28] There are several different ways of calculating (even of defining) effect sizes. What we have used here are Cohen's d, calculated as the difference between the sample means, divided by the pooled estimate of the standard deviation (pooled across the two samples). A widely accepted interpretation of these effect sizes is that an effect size between 0.0 and 0.2 is regarded as "negligible", one between 0.2 and 0.5 as "small", one between 0.5 and 0.8 as "medium", and one of over 0.8 as "large".

- Comparing Mäori students and Pasifika students with the other students in each of the tests (for both discontinued and referred students): are there indications that they had more lessons, or achieved better/worse scores? Table 14 shows effect sizes based on the mean for students of other ethnicities minus the mean for Mäori students and mean for students of other ethnicities minus the mean for Pasifika students.
- Comparing discontinued with referred students for each of the tests, and each of the main ethnic groups: are the discrepancies between the discontinued and referred students bigger for a particular ethnic group or for a particular test? Table 15 shows effect sizes based on mean differences calculated as values for discontinued students minus values for referred students.
- Comparing initial with final scores for each of the tests, for discontinued and referred students within each of the ethnic groups: did students in some ethnic groups make bigger gains through the intervention than others, and were the gains for the discontinued students greater than those of the referred students? Table 16 shows effect sizes based on mean differences calculated as final minus initial scores.

When we compare the mean achieved by Mäori students in each of the tests, as well as the number of lessons given, with that of the other students, and do the same for the Pasifika students (Table 14), we see that all of the effect sizes are relatively small (the biggest 0.51, the smallest was 0.05) confirming that Reading Recovery is no less effective for these students. In the table, a (-) indicates that the mean for the other students was smaller than the mean for Mäori or Pasifika (the discontinued students had more lessons than the other students, but the referred students did not; the other students had higher mean scores in all the tests).

Table 14 **Effect sizes for the difference between the mean number of lessons, and three tests means (for the initial and final scores) for the students of other ethnicities and those for the Mäori and Pasifika students**

	Discontinued students		Referred students	
	Mäori (*n*=1635) vs Other (*n*=3715)	Pasifika (*n*=716) vs Other (*n*=3715)	Mäori (*n*=322) vs Other (*n*=472)	Pasifika (*n*=124) vs Other (*n*=472)
Number of lessons	(-) 0.06	(-) 0.20	0.23	0.43
Initial Instructional Text Level Test – Level 1	0.28	0.51	0.21	0.25
Final Instructional Text Level Test – Level 1	0.27	0.33	0.21	0.37
Initial Burt Word Reading Test	0.34	0.44	0.28	0.32
Final Burt Word Reading Test	0.05	0.10	0.20	0.32
Initial Clay Writing Vocabulary Test	0.18	0.40	0.18	0.20
Final Clay Writing Vocabulary Test	0.07	0.07	0.04	0.18

The evidence in the table (in terms of effect size) supports that provided elsewhere that:

- Mäori and Pasifika students who were discontinued received slightly more lessons than discontinued students of other ethnic groups;
- Mäori and Pasifika students who were referred received slightly fewer lessons;
- Mäori students had slightly lower initial scores than the other students, and Pasifika students had even lower initial scores, particularly those who were discontinued; and
- there was almost no difference in the final scores for the Burt Word Reading Test and the Clay Writing Vocabulary Test, but there was a slight difference in final scores in the Instructional Text Level Test between Mäori and Pasifika students and those of other ethnicities.

If there were a few, slight differences between the ethnic groups on each of the tests, were the differences between scores for the discontinued and referred students greater with some of the ethnic groups? The effect sizes for the difference in mean scores for the number of lessons and each of the tests between discontinued and referred students, taking each ethnic group separately, is given in Table 15.

Table 15 **Effect sizes for the difference between the mean number of lessons, and three tests means (for the initial and final scores) for the discontinued and referred students in each of the main ethnic groups**

	Mäori discontinued (*n*=1635) vs referred (*n*=322)	Pasifika discontinued (*n*=716) vs referred (*n*=124)	Other discontinued (*n*=3715) vs referred (*n*=472)
Number of lessons	(-) 0.32	(-) 0.02	(-) 0.63
Initial Instructional Text Level Test – Level 1	0.98	0.81	1.08
Final Instructional Text Level Test – Level 1	3.45	3.87	3.53
Initial Burt Word Reading Test	1.01	0.95	1.16
Final Burt Word Reading Test	2.46	2.76	2.42
Initial Clay Writing Vocabulary Test	1.01	0.84	1.09
Final Clay Writing Vocabulary Test	1.69	1.94	1.71

If we look at the number of lessons, we see that for the Pasifika students there was almost no difference in the number of lessons received by discontinued students, and the number received by referred students. There was a slight difference for Mäori students (referred students received more lessons), and a more marked difference for students of other ethnicities.[29]

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[29] These differences related to the fact that Mäori and Pasifika students had fewer lessons than other students before they were referred.

So far as the tests are concerned, we see a marked difference (the effect size is large) between the initial scores of discontinued and referred students. However the order of difference is considerably larger for the final scores, with the greatest discrepancy being in the Instructional Text Level Test scores, and the least for the Clay Writing Vocabulary Test scores.

If we look for differences by ethnicity, there is a consistent pattern in the *initial* scores, with the Pasifika students having the least difference between the scores of discontinued and referred students, and students of other ethnicities having the greatest difference. However, the pattern for the *final* scores is reversed: there it is the Pasifika students who have evidence of the greatest difference between the scores of discontinued and referred students, whereas the effect sizes for Mäori and students of other ethnicities are almost equal.

Lastly we look at the difference between initial and final scores for the discontinued and referred students in each ethnic group (Table 16). This enables us to see whether the effect of the intervention was more marked in one or other ethnic group, and also whether the effect for the discontinued group was very different to that for the referred group.

Table 16 **Effect sizes for the difference between the three tests means (final minus initial scores) for the discontinued and referred students in each of the main ethnic groups**

	Discontinued students			Referred students		
	Mäori (*n*=1635)	Pasifika (*n*=716)	Other (*n*=3715)	Mäori (*n*=322)	Pasifika (*n*=124)	Other (*n*=472)
Instructional Text Level Test – Level 1	5.74	6.43	5.39	2.84	2.74	3.03
Burt Word Reading Test	3.39	3.65	3.11	2.08	1.95	2.17
Clay Writing Vocabulary Test	2.81	3.18	2.73	2.01	1.76	2.02

For the referred students, the effect sizes of the differences between the initial and final scores for the Burt Word Reading Test and Clay Writing Vocabulary Test are of the same order of size, but the effect sizes for the Instructional Text Level Test are greater. The effect sizes of this difference are similar to those seen in Table 15 for the comparison between the discontinued and referred students on the final tests. There are no particularly marked differences between the ethnic groups, although the effect sizes for the Pasifika students were always the lowest, and those of students of other ethnicities were always the highest.

For the discontinued students, the effect sizes are larger than those for the referred students. There are also more marked differences between the tests (the effect sizes for the Instructional Text Level Test are almost twice those for the Clay Writing Vocabulary Test). When we compare the effect sizes of the three ethnic groups, it is the Pasifika students who had the greatest difference between their initial and final test scores, and the Mäori group also showed a more marked increase than did the students of other ethnicities.

This data indicates that Reading Recovery had a larger positive effect on those Mäori and Pasifika students who were discontinued compared with their peers of other ethnicities, but a lesser effect for Mäori and Pasifika students who were referred.

Summary

From these observations it is clear that students entered Reading Recovery with unequal advantage, and this inequity varied in relation to differences in ethnicity, school decile, authority, size, the size of the population centre, and the proportion of Mäori enrolment. Many of these characteristics are associated, for example, many low decile schools have high Mäori and/or Pasifika enrolment, and the majority of Pasifika students attend schools in the main urban areas.

Students' initial scores decreased with decreasing decile. Students' initial scores also decreased with an increase in proportion of Mäori enrolment but this pattern varied depending on school location. Students at schools with high Mäori enrolment in either main urban or rural areas tended to have lower initial scores in comparison to their counterparts in secondary urban schools.

The inequalities that were a feature of the initial scores were diminished in the final scores for discontinued students, with those with the lowest initial scores tending to make the greatest gains. For example, any differences by ethnicity on the final Instructional Text Level Test were not statistically significant.

Students across all school and student characteristics made gains in Reading Recovery and it is unlikely these gains were just attributable to regression to the mean or to expected classroom progress without an intervention. This finding indicates that Reading Recovery can be effective for different groups of students and in a range of contexts. Overall, the outcomes for Mäori and Pasifika students who were discontinued from Reading Recovery were equitable with those of other students given their different entry points and the ceiling effect. This equalising effect was particularly evident for the discontinued Pasifika students.

The number of lessons received by discontinued students tended to decrease with increasing decile. Mäori and Pasifika students who were discontinued received more lessons than other discontinued students.

The main inequities observed appear to be more related to the type of school students attended, not their ethnicity or the nature of the intervention they receive. The data indicate that the type of school students attended had a substantial influence on their literacy performance affecting their initial and final scores and the point at which they were referred.

In general there is an equity issue for students who attended schools with low average literacy performance prior to Reading Recovery. In particular, Asian and Pasifika students in large schools had the lowest initial scores. In contrast, students at low decile state-integrated schools had higher initial scores compared with their counterparts at other low decile schools. The fact that students

from some ethnic groups and from some types of schools entered Reading Recovery with low entry scores indicates a need to examine first wave literacy practices in Year 1.

Students' initial scores, and school and personal characteristics alone did not give enough information to reliably predict whether a student would be discontinued or referred. In general terms students who were more likely to be referred included those who achieved low initial scores on the three tests, were Mäori or New Zealand European/Other, or who were either carried over from the previous year or moved from another school.

Students in lower decile schools (a substantial proportion of whom were Mäori or Pasifika) were overall less likely to have their lessons discontinued, and the most common reasons for this were transience and referral. Student transience is largely outside the control of schools, but referral is not. Students in low decile schools, and Mäori and Pasifika students, were more likely to be transient or to be referred. Students in rural schools were less likely to be referred, and had more lessons, perhaps reflecting lower access to specialist assistance (as shown by the survey data, page 100). Unlike the outcomes for students who were discontinued, the outcomes for those who were referred tended to reflect the same differences by ethnicity shown in the initial scores.

Students who were referred had a different mean number of lessons than those who were discontinued and this number varied by initial scores and school characteristics. The referred students received more lessons on average than the discontinued students, with the highest number of lessons received by those whose scores almost, but not quite, reached the level required to be discontinued.

The number of lessons received by students depended in part on their initial score, with those discontinued students who achieved in the lowest 25 percent of all students on the initial tests receiving on average nearly twice the number of lessons of the students who achieved in the highest 25 percent of all students on the initial tests. The difference in the number of lessons received was greatest for those who also achieved relatively low final scores, and least for those who achieved relatively high final scores.

The data showed an association between number of lessons and successful outcomes. Mäori and Pasifika students who were discontinued received more lessons than their counterparts of other ethnicities. The number of lessons received by referred students tended to increase with increasing decile. This suggests that students in low decile schools may be referred earlier than those in higher decile schools.

This was particularly the case for Mäori and Pasifika students. The Mäori and Pasifika students at low decile schools who were referred had low initial scores, which were similar to those of other low decile students. But Mäori and Pasifika who were referred received fewer lessons in fewer weeks than other referred students. Correspondingly, their final scores were slightly lower, and the effect size data show the lowest effects for these students. No explanation for this early referral was evident in the data.

These data give some indication that, to ensure equitable outcomes for Mäori and Pasifika students, school practices may need to be more closely examined. This could include an examination of first wave literacy teaching practices, along with a closer look at the Reading Recovery and classroom experiences of students who are referred and the school decisions about this referral.

5. Themes from the surveys: Schools offering Reading Recovery

Introduction

To provide information on the effectiveness of Reading Recovery, and in particular, whether it was meeting the needs of Mäori and Pasifika students, principals and Reading Recovery teachers from schools offering Reading Recovery were asked to complete questionnaires about the effectiveness and delivery of Reading Recovery at their school. Principals were asked for data about how Reading Recovery was funded, and about the other literacy interventions currently offered to Years 1–3 students at their school. Reading Recovery teachers were asked for details about how Reading Recovery was implemented at their school. Principals and Reading Recovery teachers were asked the same questions about the effectiveness of Reading Recovery.

A total of 195 principals and 171 Reading Recovery teachers returned questionnaires. We estimated that approximately 67 percent of principals of schools offering Reading Recovery and 59 percent of Reading Recovery teachers returned a questionnaire. A total of 142 (64 percent) of these were from the same school. The responses of principals and Reading Recovery teachers to the survey are reported together in this section of the report.

To enable similarities and differences to be identified between schools we compared the data in relation to school characteristics. On key questions we also compared principal and teacher views. Where statistical differences were found this is indicated in the text with phrases such as "more likely", "less likely", and "were significantly". In some cases relationships which were not statistically significant, but for which a pattern seemed evident are indicated. These are described as "trends".

Although the overall sample for the survey was representative of New Zealand primary schools, the schools of the principals and teachers who responded to the Reading Recovery questionnaires had different characteristics compared with national data. These schools were more likely to be very

large[30] or located in main urban areas, and less likely to be small or rural schools and schools with very high Mäori enrolment.[31]

The characteristics of these schools were comparable to the characteristics of the schools in the Ministry of Education 2003 Reading Recovery dataset, indicating that the views expressed in these surveys can be taken as representative of the views of principals and teachers at schools offering Reading Recovery nationally. For the characteristics of the respondents' schools see appendix D.

Sources of funding for Reading Recovery

Nearly all of the schools in the survey received a Ministry of Education staffing allocation for Reading Recovery and most topped this up with their own contributions as shown in Table 17. A small number did not top up this allocation, and most of these were rural schools. Schools received an average of 0.20–0.29 FTTEs in funding from the Ministry of Education, and funded an average of 0.20–0.29 FTTEs themselves. Lower decile schools were more likely than higher decile schools to get a higher allocation from the Ministry of Education, and correspondingly topped this up to a higher level. Larger schools received greater allocations than smaller schools.

Table 17 **Principals' reports on the proportion of Reading Recovery staffing funded by the Ministry of Education or schools (n=195)**

Number of FTTEs	Staffing allocation provided by the Ministry of Education		Staffing allocation provided by the school	
	n	%	*n*	%
None	5	3	19	10
0.01–0.09	38	19	42	22
0.10–0.19	61	31	52	27
0.20–0.29	49	25	34	17
0.30–0.39	21	11	22	11
0.40–0.49	13	7	5	3
0.50–0.59	4	2	7	4
0.60–0.69	2	1	5	3
0.70 or more	2	1	7	6
Total	195	100	193	103*

* Percentage totals to more than 100 as a result of rounding.

Table 18 shows the approximate total FTTE funding calculated from the average mid-points of the FTTE provided by the Ministry of Education and schools. Decile 1 and 2 schools and large schools

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[30] The term "very large schools" refers to schools with 300 or more students. "Very small schools" denotes schools with a roll of 1–52. In some cases the more general term "small schools" is used. This denotes schools with a roll of 1–104.

[31] Schools with 30 percent or more Mäori enrolment are referred to in the text as having "very high Mäori enrolment".

were more likely than other schools to have a higher overall level of staffing allocated to Reading Recovery.

Table 18 **Total approximate Reading Recovery FTTE (n=195)**

Number of FTTEs	Total average Ministry of Education and school FTTE	
	n	*%*
None–0.09	12	6
0.10–0.29	37	19
0.30–0.49	66	34
0.50–0.69	48	25
0.70–1.09	20	10
1.10+	12	6
Total	195	100

As shown in Table 19, most schools (74 percent) used their Ministry of Education Operational Funding to top up the Reading Recovery staffing provided by the Ministry of Education and almost one-quarter (23 percent) also used their School Entitlement Staffing. A small number used other sources of funding.

Table 19 **Principals' reports on the sources of funding used for Reading Recovery (n=195)**

Source	*n*	*%*
Ministry of Education staffing for Reading Recovery	190	97
School Operational Funding	145	74
Targeted Funding for Educational Achievement (TFEA)	44	23
Special Education Grant (SEG)	40	21
ESOL Funding	4	2
School Entitlement Staffing (e.g., Junior School 1–23 staffing)	45	23
Locally raised funds	22	11
School fees	6	3
Other sources	2	1

Reading Recovery teachers

Most schools (79 percent) had one to four teachers who had trained in Reading Recovery at some point; some (12 percent) had 5–8 teachers. A few (8 percent) had no trained Reading Recovery teachers as they were part of a cluster. On average, schools had three teachers who had trained in Reading Recovery. Larger schools and contributing[32] schools had more teachers who had trained in Reading Recovery. About one-quarter (23 percent) had a teacher training in Reading Recovery in 2004.

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[32]   In the general population of schools, and in the Reading Recovery schools in the 2003 dataset, there was a significant association between school type and size with contributing schools being more likely than full primary schools to have large rolls. This was not the case for the schools that returned questionnaires for the Reading Recovery surveys.

Of these trained teachers, an average of one per school were seeing Reading Recovery students in 2004. The number of Reading Recovery teachers operating at any one school in 2004 ranged from none (if they were a cluster school) to three.

Background of the Reading Recovery teachers

The majority of Reading Recovery teachers who responded to the teacher questionnaire classified themselves as New Zealand Europeans (89 percent). A few were Māori (4 percent), Asian (1 percent), or from other groups such as Indian or South African (3 percent), or did not respond (3 percent). The few Māori teachers were concentrated in schools with very high Māori enrolment. Most Reading Recovery teachers (97 percent) were female. As shown in Table 20 the majority of these teachers had 3 or more years' experience as a Reading Recovery teacher. There was a trend for the Reading Recovery teachers in higher decile schools to be more experienced than those in decile 1 and 2 schools, with almost one-third of the teachers in decile 1–2 schools reporting they were currently training as Reading Recovery teachers.

Table 20 **Number of years working as a Reading Recovery teacher (n=171)**

Number of years	n	%
Currently training as Reading Recovery teacher (2004)	31	18
1–2 years	26	15
3–4 years	27	16
5–6 years	18	11
7–8 years	22	13
9–10 years	17	10
More than 10 years	30	18
Total	171	101*

* Percentage totals to more than 100 as a result of rounding.

As shown in Table 21 about one-third (32 percent) of these Reading Recovery teachers were also full-time classroom teachers, and 28 percent provided Reading Recovery at more than one school. The others were non-classroom teachers providing Reading Recovery or other interventions at one school, or part-time teachers working at one school. These data show that nearly half, and possibly more, of the Reading Recovery teachers were not a full-time staff member at a single school.

Table 21 **Reading Recovery teacher's role in school (n=171)**

Role	n	%
Full-time classroom teacher with relief time to provide Reading Recovery at one school	55	32
Part- or full-time teacher providing Reading Recovery at more than one school	48	28
Non-classroom teacher providing Reading Recovery or other interventions at one school	41	24
Part-time teacher providing Reading Recovery at one school	27	16
Total	171	100

There was a trend for the position of the Reading Recovery teacher to be organised differently depending on school size. Small schools tended to share Reading Recovery teachers with other schools. The most common arrangement for mid-sized schools was for the Reading Recovery

teacher to be a full-time classroom teacher; and for very large schools, for the Reading Recovery teacher to be a non-classroom teacher.

Reasons for offering Reading Recovery

Principals were asked to select from a list their main reasons for offering Reading Recovery, and Table 22 shows their responses. Most principals cited known effectiveness of Reading Recovery, either through their students' experience (89 percent) or research evidence (66 percent) as main reasons why their school offered Reading Recovery. Having trained staff, access to Reading Recovery training and support, the monitoring of Reading Recovery students that occurred, and the funding which was provided, were also important factors in the decision to offer Reading Recovery for approximately half of the principals.

Table 22 **Principals' main reasons for offering Reading Recovery (n=195)**

Reasons	n	%
From our experience it is effective with our students	174	89
Research shows it is effective	129	66
We have Reading Recovery-trained staff	117	60
Monitoring of student progress during Reading Recovery is part of the intervention	115	59
Training and support are provided	107	55
Monitoring of student progress after Reading Recovery is part of the intervention	96	49
We receive extra funding for Reading Recovery	91	47
Other reasons (e.g., Reading Recovery training benefits classroom teachers)	9	5

Students' access to Reading Recovery

Selecting students for Reading Recovery in 2003

Data collected from Reading Recovery teachers indicate that across the schools in the survey an average of 36 students turned 6 at each school in 2003, with numbers ranging from 3 to 121. Of these, an average of seven students were offered Reading Recovery in 2003, with numbers ranging from zero to 23. This indicates that, in the schools in this survey, approximately 20 percent of 6-year-olds were offered Reading Recovery in 2003. This figure is to be expected given that Reading Recovery is recommended to be offered to the lowest performing 20 percent of students at each school. We also calculated national 2003 implementation rates using the data from the Ministry of Education 2003 Reading Recovery dataset and the Ministry of Education 2003 Schools dataset.

From these records we estimated that approximately 19 percent[33] of Year 2[34] students in schools offering Reading Recovery nationally, were offered Reading Recovery in 2003.

There were marked differences, in relation to school characteristics, between Reading Recovery implementation rates, as shown in Table 23. The rural schools, mid-decile schools, schools with very high Mäori enrolment, small and mid-sized schools, and full primary schools in the survey had higher levels of implementation with larger proportions of students on average receiving Reading Recovery than other schools. Very large schools, those located in main urban areas, contributing and composite schools, high decile schools, and those with low Mäori enrolment had lower average proportions of students receiving Reading Recovery. Similar trends were shown in the national data from the Ministry of Education 2003 datasets. Nationally there were one or two exceptions to the trends shown in the survey schools, the main one being that nationally decile 1–2 schools had a higher implementation rate than the decile 1–2 schools in the survey.

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[33] This figure represents the number of *new* children in Reading Recovery. Including students carried over would give a slightly higher percentage.

[34] Year 2 students were used as the nearest approximation of students turning 6.

Table 23 **Reading Recovery implementation rates in 2003 by school characteristics**

School characteristics	Survey schools* (n=171)		Reading Recovery schools nationally** (n=1301***)	
	n	%	*n*	%
Location				
Main urban	95	18	718	17
Rural	44	27	352	28
Minor urban	17	21	139	21
Secondary urban	15	26	88	20
Decile				
1–2	32	21	220	24
3–4	36	23	249	21
5–6	35	22	250	19
7–8	29	25	274	19
9–10	39	14	303	18
% Mäori enrolment				
< 8%	42	14	308	16
8–14%	39	22	318	19
15–29%	51	22	359	19
30%+	39	25	316	23
Size				
1–52	8	27	106	39
53–104	26	35	203	32
105–199	45	27	361	27
200–299	35	26	252	21
300+	57	16	379	15
Type				
Full primary	85	23	647	23
Contributing	81	19	629	17
Composite	5	11	25	23

*   For survey schools, Reading Recovery implementation rates were estimated by calculating the mean number of students who received Reading Recovery as a proportion of the total number of students who turned 6 at each school.

**   National Reading Recovery implementation rates were estimated by calculating the mean number of students recorded as receiving Reading Recovery in the 2003 Reading Recovery dataset as a proportion of the total number of Year 2 students in each school as noted in the Ministry of Education 2003 Schools dataset. Students who were carried over from 2002 and transferring students were not included in these figures.

*** These figures were calculated using the Ministry of Education 2003 Reading Recovery Student dataset. This dataset contained a different number of schools compared with the Ministry of Education 2003 Reading Recovery Schools dataset. For some school characteristics there was a small amount of missing data.

Does Reading Recovery reach all students who need it?

Approximately two-thirds of principals (66 percent) and Reading Recovery teachers (63 percent) indicated that some students at their school who needed Reading Recovery did not have access to

it. Teachers from contributing, very small,[35] and schools with a roll of over 199 were more likely than teachers from full primary or mid-sized schools to indicate that, in general, some students missed out. A similar, but less pronounced pattern was shown in principals' responses. This is supported by the data in Table 23 above, which shows that the contributing schools and very large schools in the survey had lower average implementation rates.

Approximately one-third of respondents considered between one and four students had missed out in 2003, and approximately one-quarter thought five or more had, as shown in Table 24. Of the principals and teachers who specified the number of students who missed out, the average was 5. Principals of decile 1 and 2 (an average of 9), very large (an average of 8), main urban (an average of 6), or state-integrated schools (an average of 6) were more likely than principals of other school types to indicate that larger numbers of students missed out. Reading Recovery teachers' views conformed to a similar pattern. There was also a trend for the principals of schools with very high Mäori enrolment (an average of 7) and contributing schools (an average of 6) to report larger numbers of students missed out.

Table 24 **Number of students unable to access Reading Recovery in 2003**

Number of students unable to access Reading Recovery	Principals' views (n=195)		Reading Recovery teachers' views (n=171)	
	n	%	*n*	%
1–4	62	32	62	36
5–9	35	18	30	18
10–14	7	4	2	1
15–19	4	2	5	3
20+	2	1	1	1
Not sure/non-responses	19	10	8	5
Total	129	67*	108	64*

* Percentage totals to more than expected figures due to rounding.

On the whole, respondents' perceptions of the numbers of students who missed out matched the trends shown in the implementation data in Table 23, with respondents at schools with an average implementation rate of less than 20 percent being more likely to indicate larger numbers of students missed out.

Principals and Reading Recovery teachers were asked to indicate from a list of reasons why students did not have access to Reading Recovery as shown in Table 25. The main reason, which was indicated by more than half of the principals (57 percent) and teachers (57 percent), was a lack of funding for places. This lack of funding restricted schools' ability to offer additional places to students needing Reading Recovery if current Reading Recovery students were making slow progress or transferred from other schools.

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[35] Statements about very small schools should be interpreted with caution as they are based on a small sample size.

Table 25 **Reasons for students not having access to Reading Recovery**

Reason	Principals' views (n=195)		Reading Recovery teachers' views (n=171)	
	n	%	*n*	%
Lack of funding to offer sufficient Reading Recovery places	111	57	98	57
Other students making slow progress, so places were unavailable	71	36	51	30
Transferring-in students taking places of waiting students	48	25	31	18
Other reasons (e.g., staffing, sudden increases in student numbers)	17	8	20	18

Entry criteria

Reading Recovery teachers were asked if they felt that the age of 6–6½ years was the best time for students to begin Reading Recovery. On the whole, most thought this was the case (77 percent), although some disagreed (18 percent), and a few were not sure (6 percent). Teachers from decile 1–2 schools and schools with very high Mäori enrolment, were more likely than other teachers to think this was not the best time, with almost one-third answering this question in the negative. Table 26 gives teachers' reasons for preferring the starting age of 6–6½ years.

Table 26 **Reading Recovery teachers' reasons for preferring starting age of 6–6½ years (n=171)**

Reasons	n	%
Students have settled in school and have basic literacy understanding	46	27
Students have developed fewer bad habits	34	20
Students are not too far behind their peers	32	19
School has had sufficient time to collect achievement data	27	16
Students have less time to lose confidence or interest in reading	26	15

In total nearly one-third (31 percent) of the Reading Recovery teachers believed that some children would be better served by delaying their entry. This included those who did not think the age of 6–6½ years was the best time for students to begin Reading Recovery and some of those who did. In particular, teachers mentioned students with limited exposure to literacy or oral language, such as Mäori or Pasifika students, and boys who were lacking in maturity.

> It is [an appropriate age] for most students but some boys don't make progress until 7+ (maturity) and children who do not have enough English to test also miss out and by the time they have acquired some English they are too old.

Providing students with ESOL or oral language programmes prior to Reading Recovery was suggested by some of these teachers.

> For many children it is [an appropriate age]. For some, however, 6½ to 7 is a more suitable age because they need longer to settle into school and learn a base of item knowledge on which to build literacy learning. In my experience this applies strongly to many Mäori and Pasifika children. Many children also need to take part in an oral language programme to improve their language skills prior to participating in Reading Recovery.

Schools that had taken an early intervention approach in Year 1 had found it to be very successful.

> First Chance has proven to be very effective in accelerating the development of reading, writing, and oral strategies/skills of both our Mäori and Pasifika students. Students who would have been referred to Reading Recovery in the past now make satisfactory, i.e. average, progress with First Chance teaching in their first two years with a fully trained First Chance teacher.

Excluding students

Around half of the Reading Recovery teachers (49 percent) stated that at some point in their school's history at least one of their school's lowest performing 6-year-olds had been excluded from entry into Reading Recovery. A similar proportion indicated this had not happened at their school (44 percent). A small number (7 percent) were not sure or did not reply. Reading Recovery teachers from schools with a roll of over 104 were more likely than teachers from smaller schools to indicate that at least one student had been excluded.

Reading Recovery teachers were asked to select the reasons for these exclusions from a list as shown in Table 27. The most common reason given was learning delays (28 percent).

Table 27 **Teachers' reasons for excluding students from Reading Recovery (n=171)**

Reasons	*n*	%
Learning delays	48	28
Absenteeism	25	15
ESOL	18	11
ORRS/Special Needs students	13	8
Behavioural problems	11	6
Insufficient funding for adequate number of places	11	6
A history of transience	6	4
Other (e.g., student involved in too many other interventions)	3	2

Transferring students

When asked to indicated what practices they used to place current Reading Recovery students who were transferring from other schools, most Reading Recovery teachers (83 percent) indicated they conformed to the standard practice of placing these students at the top of the waiting list as shown in Table 28. Approximately one-fifth (22 percent) indicated they did not always conform to this practice and would compare the needs of transferring students to the needs of existing students.

Table 28 **Actions taken by Reading Recovery teachers to place transferring-in Reading Recovery students (n=171)**

Action	*n*	%
Student is placed at the top of the waiting list	141	83
Student's needs are compared with those on waiting list	38	22
Other (e.g., situation has not arisen)	4	2

After Reading Recovery

Referral options for students who are not successfully discontinued

Most Reading Recovery teachers (91 percent) indicated they had access to referral options for students who were not discontinued from Reading Recovery successfully. A few (6 percent) had not needed to refer students, and a small proportion (5 percent) did not have access to options or only had access if personnel were available. Most had an average of two different referral options, up to a maximum of five. The most common options were Resource Teachers of Literacy[36] (RTLits), Resource Teachers of Learning and Behaviour[37] (RTLBs), and teacher aides as shown in Table 29.

Table 29 **Reading Recovery teachers' reports of student referrals (n=171)**

Person referred to	*n*	%
Resource Teacher of Literacy (RTLit)	110	64
Resource Teacher of Learning and Behaviour (RTLB)	94	55
Teacher aide	86	50
Oral language specialist	22	13
Educational psychologist	20	12
Other trained school staff	16	9
Third Chance	8	5
Tape Assisted Reading Programme (TARP)	5	3
Parent-tutor	3	2
Reading Recovery teacher (for a special programme)	2	1
In-class programme	2	1
SPELD	2	1
No-one	4	2
Depends on whether people are available	4	2
Referral has not been necessary	10	6
Other	4	2

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[36] RTLits are specialist registered teachers who work with classroom teachers and students to provide intensive assistance in regard to reading and written language. RTLits work with a cluster of schools.

[37] RTLBs are specialist registered teachers who work with classroom teachers, and with students who have learning and behaviour difficulties. RTLBs work with a cluster of schools.

Interventions offered to ex-Reading Recovery students

Most principals (96 percent) reported their school had literacy interventions available if necessary for students who no longer needed the extra support of Reading Recovery but needed further assistance at a later time. Most commonly available was an intervention with a teacher aide (86 percent) as shown in Table 30. Approximately half of the schools had access to the services of a RTLB (57 percent), or RTLit (51 percent). Schools had access to between zero and nine different interventions, with an average of three.

Although similar numbers of principals from rural schools reported they offered further interventions if necessary to ex-Reading Recovery students, lower numbers reported having access to interventions with RTLits, RTLBs, and parent-tutors compared with the other schools.

Table 30 **Principals' reports of literacy interventions offered to ex-Reading Recovery students requiring assistance (n=195)**

Literacy intervention	*n*	%
Teacher aide	167	86
Resource Teacher of Learning and Behaviour (RTLB)	111	57
Resource Teacher of Literacy (RTLit)	99	51
Parent-tutor	50	26
Pause, Prompt, and Praise (PPP)	35	18
Tape-Assisted Reading Programme (TARP)	33	17
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	22	11
Supporting At-Risk Readers (SARR)	20	10
Intervention with trained staff (other than classroom or Reading Recovery teacher)	11	6
Third Chance	8	4
Extra time with classroom or Reading Recovery teacher	5	3
Peer tutoring	4	2
Other interventions (e.g., phonics)	12	6

Effectiveness of Reading Recovery

The majority of principals (73 percent) and Reading Recovery teachers (64 percent) considered Reading Recovery was working very well at their school as shown in Table 31. Most of the others considered Reading Recovery was working moderately well (24 and 32 percent, respectively). Very few principals and teachers considered Reading Recovery was not working very well or were uncertain about its effectiveness. There were no differences in principals' or teachers' views by school characteristics.

Table 31 **Views of how well Reading Recovery was working at the school**

Rating	Principals' views (n=195)		Reading Recovery teachers' views (n=171)	
	n	%	*n*	%
Very well	142	73	110	64
Moderately well	46	24	54	32
Not very well	2	1	3	2
Not sure/non-response	5	3	4	2
Total	195	101*	171	100

* Percentage totals to more than 100 as a result of rounding.

The majority of principals considered Reading Recovery was moderately (41 percent) or very (38 percent) cost-effective as shown in Table 32.

Table 32 **Principals' views on the cost-effectiveness of Reading Recovery (n=195)**

Cost effectiveness	*n*	%
Very cost-effective	75	38
Moderately cost-effective	79	41
Not very cost-effective	24	12
Not sure/non-response	17	9
Total	195	100

Just under half (42 percent) of principals provided a comment about the cost-effectiveness of Reading Recovery. Most common were general statements about Reading Recovery's effectiveness (17 percent). Those who considered Reading Recovery to be cost-effective commented that the high costs were justified by the results (10 percent).

> Reading Recovery makes a big difference to the Pacific Island children at our school. They become more confident in their classroom and in the playground. The children who have Reading Recovery, especially the PIs, are often at a higher reading age over the following three years than those children who were originally considered at a high enough level not to be taken on to Reading Recovery.

Those who did not consider Reading Recovery to be cost-effective commented on the high costs of Reading Recovery (6 percent) or that other interventions reached a larger number of students (3 percent).

> It is very expensive and while we get the gains we wish to we cannot sustain the costs for the growing need.

A small number of other principals made other comments, such as, lower performing students took more time and therefore cost more, or that effectiveness was related to the quality of the Reading Recovery teacher.

The main strengths of Reading Recovery in comparison to other literacy interventions

Table 33 shows principals' and Reading Recovery teachers' views on the main strengths of Reading Recovery in comparison to other literacy interventions. There was agreement on the key strengths of Reading Recovery by both teachers and principals. These were that it involved daily, one-on-one instruction, was provided by specially trained teachers, focused on both reading and writing, and could be personalised to the needs of the student. The collection of data to select and monitor students during Reading Recovery was also seen as a strength by the majority of principals and teachers. Fewer respondents considered the collection of data on ex-Reading Recovery students to be a strength.

In most cases more teachers than principals considered each item to be a particular strength of Reading Recovery. In particular, Reading Recovery teachers were more likely than principals to consider the support of Reading Recovery tutors to be a strength.

Table 33   **Main strengths of Reading Recovery in comparison to other literacy interventions**

Strength	Principals' views (n=195)		Reading Recovery teachers' views (n=171)	
	n	%	*n*	%
Delivery				
Instruction is: one-on-one	187	96	168	98
provided daily	185	95	165	97
provided by specially trained Reading Recovery teachers*	178	91	168	98
Instruction can be personalised to the needs of the student*	164	84	167	98
Students are taught: phonological skills	130	67	124	73
to read for meaning*	130	67	140	82
Reading Recovery tutors provide support to Reading Recovery teachers*	125	64	156	91
Reading Recovery has a research base*	122	63	137	80
Reading Recovery can be provided for the length of time that suits the student	111	57	112	66
Students can receive instruction outside the classroom*	89	46	106	62
Resources				
Literacy activities in Reading Recovery involve both reading and writing*	169	87	168	98
Texts/resources can be selected to match individual learning needs*	153	79	158	92
Students engage with familiar texts and texts which extend them*	147	75	161	94
Monitoring				
Data are used to: select students*	166	85	159	93
personalise instruction during Reading Recovery*	166	85	165	97
determine when students are ready to leave Reading Recovery*	156	80	155	91
Data on ex-Reading Recovery students are collected*	117	60	126	74
Students can be referred to other interventions if not showing progress*	114	59	130	76
Other				
Provides professional development for teachers	3	2	15	9
Builds self-esteem	2	1	16	9
Other (e.g., parents are involved)	18	9	35	20

* Items for which Reading Recovery teachers were more likely than principals to indicate as a strength.

Effectiveness of the processes surrounding Reading Recovery

We asked principals and Reading Recovery teachers to consider the effectiveness of the processes at their school that related to Reading Recovery, as shown in Figure 2. The process that the largest numbers of principals (57 percent) and teachers (58 percent) rated as very effective was the ongoing communication between Reading Recovery and classroom teachers. The processes which were rated as very effective by the lowest numbers were: supporting classroom teachers to use data on ex-Reading Recovery students (23 percent and 14 percent, respectively), and ensuring Reading Recovery teachers had input into school literacy planning and professional development (29 percent and 25 percent, respectively). This could reflect the fact that many of the Reading Recovery teachers were not full-time staff members and therefore may have had less time for these activities or were not part of the school literacy team.

There were some differences between principals' and teachers' views, with teachers being less likely than principals to consider the support provided to Reading Recovery students as they made the transition off Reading Recovery, and the support provided to classroom teachers to use data on ex-Reading Recovery students, to be effective. Views on the effectiveness of these processes also varied by school characteristics:

- Principals of very small schools were more likely than principals of larger schools to indicate that processes for involving parents in Reading Recovery were very effective.
- Principals from decile 1 and 2 schools and teachers from schools with very high Mäori enrolment were more likely to indicate these processes were not effective.
- Principals of contributing schools were less likely than their counterparts in full primary schools to indicate that processes for ensuring ongoing communication between Reading Recovery and classroom teachers were very effective.

Principals of rural schools were less likely than principals of schools located in main urban areas to indicate that processes for supporting ex-Reading Recovery students who needed further intervention were very effective. This probably reflects their lower access to specialist RTLit or RTLB support.

Figure 2 **Effectiveness of the processes which support Reading Recovery**
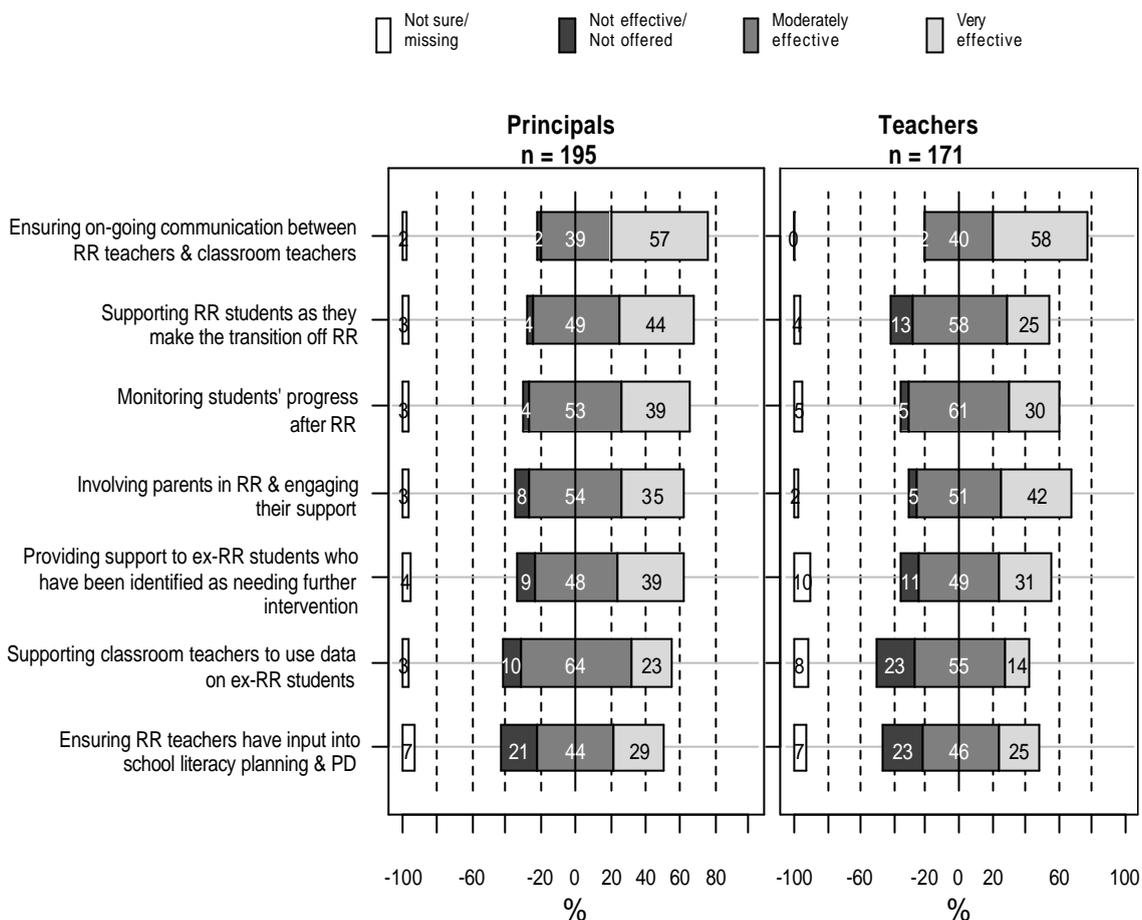
The principals and Reading Recovery teachers who indicated that their school's processes were very effective for supporting Reading Recovery, were asked to describe these processes. The main similarities in their descriptions are summarised below.

Ensuring ongoing communication between Reading Recovery and classroom teachers

Over half of the principals (57 percent) and Reading Recovery teachers (58 percent) rated the processes at their school for ensuring ongoing communication between Reading Recovery and classroom teachers as very effective.

Respondents from schools where the Reading Recovery teacher was also a classroom teacher commented on the continuity this provided. At schools where the Reading Recovery teacher was not a classroom teacher, most principals and teachers considered that the use of formal and regular methods of communication between Reading Recovery teachers and classroom teachers

contributed to the effectiveness of these relationships. Both discussions and written feedback were mentioned as methods of formal communication.

> The Reading Recovery teacher and classroom teacher discuss at length throughout the programme, all aspects of the child's progress. [The classroom teacher is given a] weekly written resume of each child's performance, teaching focus, and achievements together with suggested classroom focus.

Many mentioned that informal contact, such as chats at morning tea, also contributed to this effectiveness. Some noted that this communication was supported by the involvement of Reading Recovery teachers in syndicate meetings or Individual Education Programme (IEP) meetings for students with special needs. A few considered communication was enhanced by the processes their school had for enabling Reading Recovery teachers to observe in classrooms, or classroom teachers to observe Reading Recovery sessions.

Involving parents in Reading Recovery and engaging their support

Approximately one-third of the principals (35 percent) and slightly more Reading Recovery teachers (42 percent) rated their schools' processes for involving parents in Reading Recovery and engaging their support as very effective.

The main aspects of approaches that were considered to be effective were firstly, informing parents either by phone or in writing that their child had been selected for Reading Recovery.

> When a student is identified for Reading Recovery the Reading Recovery teacher phones the parent requesting a conference with them to explain the programme.

Once this had occurred parents were invited to come to the school for a discussion about Reading Recovery and the activities it was hoped they would engage in at home to support their child's progress.

> Parental support is essential so the reading takes place at home. All parents meet with the Reading Recovery teacher to discuss strategies to support the programme.

At many of the schools, parents were encouraged to observe their child in a session.

> …[The Reading Recovery teacher] keeps in contact with notes to parents and after a few weeks asks them to come and observe a half-hour session, which is followed by a discussion.

Some principals and Reading Recovery teachers reported that ongoing contact was maintained through regular progress reports and communication with parents. Formal contact was maintained either through sending a Reading Recovery notebook home daily, sending home regular progress reports, or by updating parents regularly by phone or in person. Contact was also maintained through informal discussions with parents who were visiting school for other purposes. Some held discussions with parents when their child finished Reading Recovery to remind parents of the

support needed at home. A couple reported that home visits were made to parents, or that a contract was developed for parents.

Monitoring students' progress after Reading Recovery

About one-third of the principals (39 percent) and Reading Recovery teachers (30 percent) rated their schools' processes for monitoring students' progress after Reading Recovery as very effective. Most of these principals and teachers indicated that students' progress was monitored regularly, and in some cases, over a number of years.

> Fortnightly monitoring – [the] classroom teacher takes a Running Record of a recent guided book [and] gives the Reading Recovery teacher [the] results to graph. If there is any worry we discuss [it] and [the] Reading Recovery teacher can give advice if needed. This continues until we are sure the child is secure to monitor only once a month or term depending on [the] child.

> The Reading Recovery teacher monitors discontinued children fortnightly for six weeks, then requests Running Records from the classroom teacher mid-term each term for three years. These are analysed by the Reading Recovery teacher and advice is offered if necessary.

The most frequent form of monitoring mentioned was Running Records. The use of standardised assessments or observation was mentioned by a few. In addition, a few reported the use of registers that documented students' needs, or frequent discussions between Reading Recovery and classroom teachers regarding students' progress.

Supporting Reading Recovery students as they make the transition off Reading Recovery

Approximately half of the principals (44 percent) and one-quarter of the Reading Recovery teachers (25 percent) rated their schools' processes for supporting Reading Recovery students as they made the transition off Reading Recovery as very effective. The main reasons given for this effectiveness were:

- discussions between Reading Recovery and classroom teachers about data and next steps which were held at the point when decisions about discontinuing lessons were made;
- ongoing discussions about students' progress;
- the ongoing monitoring of students' progress; or
- that post-Reading Recovery interventions were available for all ex-Reading Recovery students, or some if necessary.

The interventions most often mentioned were time with reading buddies, a teacher aide, or a parent-tutor. A few noted that classroom teachers gave extra support or time to students or that

Reading Recovery teachers supported ex-Reading Recovery students in the classroom for some sessions or gave them "booster" sessions outside the classroom.

> Ex-Reading Recovery students continue having small sessions with the Reading Recovery teacher (one per week). Regular data is collected.

A few indicated the transition from Reading Recovery was more effective when the Reading Recovery teacher was also the classroom teacher, or if receiving classroom teachers were Reading Recovery-trained.

Providing support to ex-Reading Recovery students who need further assistance

About one-third of the principals (39 percent) and Reading Recovery teachers (31 percent) rated their schools' processes for providing support to ex-Reading Recovery students who needed further assistance as very effective, mainly due to the availability of personnel who were able to offer further intervention. Teacher aides, parent-tutors, or classroom teachers were most often mentioned as the providers of further support. In addition, a number reported they had access to specialists such as RTLits.

Ensuring Reading Recovery teachers' input into literacy planning and professional development

Around one-quarter of principals (29 percent) and Reading Recovery teachers (25 percent) rated their schools' processes for ensuring Reading Recovery teachers' input into literacy planning and professional development as very effective. A number stated that the Reading Recovery teacher had input into their school's literacy team, syndicate group, or curriculum planning. Some noted that Reading Recovery teachers provided literacy professional development for staff, or had input at staff meetings. A few mentioned that the Reading Recovery teacher was the literacy leader or analysed Reading Recovery data to use in school planning, or that the school had a number of staff trained in Reading Recovery who contributed to planning and professional development.

Supporting classroom teachers to use data collected on ex-Reading Recovery students

Around one-quarter of the principals (23 percent) and a smaller percentage of Reading Recovery teachers (14 percent) rated their schools' processes for supporting classroom teachers to use data collected on ex-Reading Recovery students as very effective. The main reason given for this effectiveness was the meetings that were held at the time the student's series of lessons was to be

discontinued which enabled Reading Recovery and classroom teachers to discuss the data and next steps for students.

> Data is passed to the classroom teachers. Assistance and discussion is given to the classroom teachers on the Reading Recovery data – especially with the less experienced teachers.

Some reported that written information was provided for teachers to utilise.

> Data is placed in [the] children's file and used to plan [the] child's reading and writing programme in the class. Strengths [are] noted, weaknesses or skills needing strengthening are identified and planned for in [the] class programme.

Effectiveness of Reading Recovery for meeting the needs of Mäori and Pasifika students

When asked if there were aspects of Reading Recovery that were effective in meeting the needs of Mäori or Pasifika students in particular, a substantial proportion of principals (37 percent) and Reading Recovery teachers (25 percent) were unsure, or did not respond to this question (13 percent and 4 percent, respectively). Around one-eighth considered there were no aspects of Reading Recovery that were effective in meeting these particular needs (16 percent and 13 percent, respectively). Some reported that their school had few Mäori or Pasifika students and therefore they were unable to comment (7 percent and 4 percent, respectively). Others considered the practices of Reading Recovery were beneficial for all students, regardless of ethnicity (4 percent and 6 percent, respectively).

About one-third of principals (34 percent), and more than half of Reading Recovery teachers (58 percent), considered there were aspects of Reading Recovery that were particularly effective in meeting the needs of Mäori or Pasifika students. Teachers from decile 1 and 2 schools and from schools with Mäori enrolment of 15 percent or over were more likely to indicate this was the case than teachers from other schools.

Most of the features principals and Reading Recovery teachers considered particularly effective, were also those identified as the main strengths of Reading Recovery for students in general. Most commonly mentioned were the benefits of one-on-one teaching (19 percent and 23 percent, respectively).

> One-to-one instruction enables the teacher to fully ascertain prior book knowledge or language knowledge before a new book is presented. Gaps in this knowledge can be bridged.

Many of the other features that respondents mentioned were also connected to one-on-one teaching. A number referred to the benefits of individualising the programme for the student, in particular the:

• ability to teach from where the student was at or at their pace (7 percent and 18 percent, respectively);

- benefits of individualising what was taught to focus on specific areas of concern such as oral language (9 percent and 18 percent, respectively);
- opportunities which were available to build a positive relationship between teacher and student (3 percent and 4 percent, respectively); and
- the increase in self-esteem which results from individual praise (3 percent and 5 percent, respectively).

A few principals and Reading Recovery teachers mentioned aspects of Reading Recovery that enabled them to either incorporate elements of students' culture or language into their delivery or behave in culturally appropriate ways. Some commented that the flexible nature of Reading Recovery enabled Reading Recovery teachers to select texts or use language relating to students' interests or culture (5 percent and 8 percent, respectively). A few considered that the removal of students from the classroom enabled them to be sensitive to cultural concepts of shame (2 percent and 5 percent, respectively).

> They are taken out of the classroom and away from their peers so their difficulties don't create 'shame' in front of others. Praise is also given privately.

Other aspects of Reading Recovery implementation which were viewed as being particularly effective by smaller numbers of principals or Reading Recovery teachers were:

- the opportunity to involve parents in their child's learning (6 percent and 8 percent, respectively);
- the structured and consistent nature of the programme (4 percent and 2 percent, respectively);
- the continuity provided by daily lessons (3 percent and 6 percent, respectively); and
- the sharing of high expectations and progress with students (2 percent and 3 percent, respectively).

Literacy interventions offered to Years 1–3 students

To build a picture of the literacy interventions offered to students in the three years students were likely to be offered Reading Recovery, principals were asked to indicate whether or not their school offered other literacy interventions designed specifically for students with literacy difficulties at Years 1–3. They were asked at which year levels these interventions were offered, and the ethnicity of students currently receiving them. Principals were also asked for data on the students currently in Reading Recovery.

Although most principals indicated whether or not an intervention was offered, an average of 21 percent did not indicate the year level at which each intervention was offered, and an average of 25 percent did not provide current ethnicity data. Some gave a reason for their non-responses, for example, that the intervention was offered at the school but no students were currently receiving it, or that the data was time-consuming to obtain. Consequently the year level data in Table 35 and the ethnicity data in Table 36 and 37 should be interpreted with caution.

Types of interventions offered

At nearly all (96 percent) of the schools some form of literacy intervention other than Reading Recovery, designed specifically for students with literacy difficulties, was offered to students in Years 1–3, as shown in Table 34. Including Reading Recovery, approximately 31 different interventions were mentioned, but some of these were similar, for example, Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP) could be placed in the parent-tutor category. Aside from Reading Recovery which was offered by all the schools, most commonly offered interventions were:

- provided by teacher aides;
- provided by RTLBs and RTLits,
- ESOL programmes; and
- phonics programmes.

Including Reading Recovery, the number of literacy interventions offered by these schools ranged from 1 to 13, with most (86 percent) offering two to seven interventions. The average number of interventions offered was five. There were some differences in the interventions offered which related to school characteristics, namely:

- Small and rural schools were less likely than other schools to offer larger numbers of interventions.
- Decile 9 and 10 schools were less likely than lower decile schools to offer HPP and more likely to offer SPELD.
- Mid-sized schools and schools with very low Mäori enrolment were also more likely to offer SPELD.
- Large schools, schools located in main urban centres, and schools with very low Mäori enrolment were more likely to offer ESOL interventions than other schools.
- Contributing schools were more likely than full primary schools to offer interventions with teacher aides.

Table 34 **Principals' reports of the types of literacy interventions offered to Years 1–3 students (n=195)**

Intervention	*n*	%
Reading Recovery	195	100
Teacher aide	168	86
Resource Teacher of Learning and Behaviour (RTLB)	125	64
ESOL	81	42
Resource Teacher of Literacy (RTLit)	81	42
Parent-tutor	51	26
Talk to Learn	51	26
Jolly Phonics	50	26
Other phonics programmes	14	7
SPELD	26	13
Pause, Prompt, and Praise (PPP)	25	13
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	23	12
Hauraki Early Language Programme (HELP)	23	12
Tape Assisted Reading Programme (TARP)/Rainbow Readers	18	9
Trained school staff	13	7
Computer-based interventions (e.g., SuccessMaker)	8	4
Third Chance	7	4
Peer tutoring	7	4
Perceptual Motor Programme (PMP)	6	3
School-developed programmes	6	3
Other (e.g., Jolly Grammar)	14	7

In addition to these interventions, a small number of schools (4 percent) offered the first-year literacy programme First Chance.

Year levels at which these interventions were offered

Table 35 shows the year levels at which these literacy interventions were offered. Most were offered across Years 1–3. Reading Recovery was most commonly offered in Year 2. Oral language interventions such as Talk to Learn and HELP, and Jolly Phonics, tended to be offered to younger students and other interventions such as those provided by a RTLit or parent-tutor, or SPELD, tended to be offered to older students.

Table 35 **Principals' reports of the year levels interventions were offered* (n=195)**

Type of literacy intervention	Year 1		Year 2		Year 3	
	n	%	*n*	%	*n*	%
Reading Recovery	88	45	166	85	28	14
Teacher aide	101	52	105	54	111	57
Resource Teacher of Learning and Behaviour (RTLB)	46	24	63	32	74	38
ESOL	50	26	52	27	54	28
Resource Teacher of Literacy (RTLit)	18	9	24	12	53	27
Parent-tutor	17	9	22	11	35	18
Talk to Learn	35	18	23	12	11	6
Jolly Phonics	45	23	34	17	21	11
Other phonics programmes	12	6	9	5	6	3
SPELD	1	5	4	2	17	9
Pause, Prompt, and Praise (PPP)	5	3	10	5	14	7
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	13	7	12	6	9	5
Hauraki Early Language Programme (HELP)	11	6	10	5	5	3
TARP/Rainbow Readers	3	2	6	3	1	1
Trained school staff	4	2	8	4	8	4

* This table shows data for only those interventions offered by nine or more schools.

Ethnicity of students receiving interventions

Table 36 shows the ethnicity of the students receiving each literacy intervention. Interventions provided by a teacher aide, Jolly Phonics,[38] Reading Recovery, and ESOL interventions were offered to the most students.

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[38] Some principals indicated that Jolly Phonics or other phonics interventions were offered to all students in a particular year level.

Table 36 **Principals' reports on the ethnicity of Years 1–3 students receiving literacy interventions* (n=195)**

Type of literacy intervention	Ethnicity					
	Māori *n*	**NZ Euro** *n*	**Pasifika** *n*	**Asian** *n*	**Other** *n*	**Total** *n*
Reading Recovery	203	340	66	16	17	642
Teacher aide	353	584	100	61	56	1154
Resource Teacher of Learning and Behaviour (RTLB)	82	166	20	4	6	278
ESOL	20	13	236	261	97	627
Resource Teacher of Literacy (RTLit)	72	99	7	2	-	180
Parent-tutor	77	174	11	12	2	276
Talk to Learn	67	118	17	17	5	224
Jolly Phonics	279	600	63	21	17	980
Other phonics programmes	36	67	4	-	-	107
SPELD	1	24	-	-	1	26
Pause, Prompt, and Praise (PPP)	17	34	10	-	7	68
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	74	54	11	5	-	144
Hauraki Early Language Programme (HELP)	6	12	-	-	-	18
TARP/Rainbow Readers	20	29	5	6	2	62
Trained school staff	27	67	7	4	8	113

* This table shows data for only those interventions offered by nine or more schools.

Table 37 shows the approximate percentage of students receiving each literacy intervention by ethnic group.[39] These data give some indication of trends by ethnicity, but should be interpreted with caution given the incomplete nature of the data. It was not possible to calculate the approximate proportion of students being offered at least one intervention in Years 1–3 as the figures may be inflated due to some students being offered more than one intervention.

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[39] This percentage was calculated as a proportion of the total of each ethnic group in Years 1–3 by estimating the numbers in each ethnic group in Years 1–3 from the total school roll, year level, and ethnicity data.

Table 37   **Approximate percentage of Years 1–3 students receiving literacy interventions as a proportion of each ethnic group in Years 1–3* (n=195)**

| Type of literacy intervention | Ethnicity | | | | |
	Mäori	NZ Euro	Pasifika	Asian	Other
	%	%	%	%	%
Reading Recovery**	7	3	6	2	7
Teacher aide	14	8	13	9	28
Resource Teacher of Learning and Behaviour (RTLB)	4	3	3	1	4
ESOL	1	-	28	41	59
Resource Teacher of Literacy (RTLit)	8	3	2	1	-
Parent-tutor	13	8	8	8	5
Talk to Learn	7	4	9	5	****
Jolly Phonics***	8	5	4	2	6
Other phonics programmes***	15	11	10	-	-
Pause, Prompt, and Praise (PPP)	13	6	9	****	-
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	13	6	9	****	-
TARP/Rainbow Readers	1	-	-	1	1
Trained school staff	12	8	8	3	****

*   This table shows data for only those interventions offered by nine or more schools or to 30 or more students.

**   These figures are less than the expected 20 percent as they include all Years 1–3 students, not just those turning 6 in any one year.

***   In some cases Jolly Phonics or other phonics interventions were offered to all students in a particular year level. This may have resulted in an inflation of the numbers receiving these interventions in comparison to other interventions.

**** The total number of students at each school in this ethnic group was too small for this proportion to be reliable.

These data show that Asian, Pasifika, and students from other ethnicities tended to be offered ESOL interventions, and that slightly larger proportions of Mäori and to a lesser extent, Pasifika, students were receiving an intervention compared with New Zealand European students. Larger proportions of Mäori students also received HPP or PPP, and larger proportions of Mäori, Pasifika, and students of other ethnicities received interventions with a teacher aide or Reading Recovery compared with New Zealand European students. This over-representation is a feature of the national 2002 and 2003 Reading Recovery data which showed that Mäori and Pasifika students were more likely to be in Reading Recovery than New Zealand European students, and Asian students were less likely to be in Reading Recovery than other students (Anand & Bennie, 2004, 2005).

Evidence collected on the effectiveness of literacy interventions other than Reading Recovery

Around two-thirds (65 percent) of principals reported collecting evidence on the effectiveness of some or all of the literacy interventions that they offered, other than Reading Recovery. Some did not collect evidence (25 percent) or did not respond to the question (10 percent). The interventions for which evidence was collected are shown in Table 38.

In most cases fewer principals reported that evidence was collected in comparison to the total number who offered the intervention (this percentage is reported in column three of Table 38). There were a few main exceptions to this trend: TARP, interventions that were delivered by trained school staff, and phonics programmes other than Jolly Phonics. For these types of interventions similar numbers of schools both offered the intervention and collected evidence on its effectiveness.

Table 38 **Principals' reports on the literacy interventions evidence is collected for (n=195)**

Type of literacy intervention	Interventions evidence collected for		Total offering this intervention
	n	%	%
No evidence collected/no response	68	35	NA
Teacher aide	41	21	86
Resource Teacher of Learning and Behaviour (RTLB)	23	12	64
Resource Teacher of Literacy (RTLit)	20	10	42
TARP/Rainbow Readers	18	9	9
ESOL interventions	16	8	42
Talk to Learn	14	7	26
Parent-tutor	12	6	26
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	11	6	12
Trained school staff	11	6	7
Other phonics programmes	11	7	7
Jolly Phonics	8	4	26
School-developed programmes	6	3	3
Peer tutoring	6	3	4
Pause, Prompt, and Praise (PPP)	5	3	13
Early literacy programmes (e.g., First Chance, HELP)	4	2	16
Third Chance	3	2	4
Other (e.g., Individual Education Plan)	14	7	NA

The main types of evidence collected are shown in Table 39. Much of the evidence cited was collected as part of usual school assessments, such as the recording of data on reading ages, the observation of students' progress by teachers, or the use of school-wide assessments such as the Observation Survey. Approximately one-third (31 percent) of schools used both standard school assessments and additional forms of assessment to measure effectiveness, about one-fifth (18 percent) used standard school assessments only, and a few (11 percent) used additional forms of assessment only. Given that approximately half of the schools did not report they collected evidence or did not use any additional measures to assess effectiveness, it appears that many of the interventions offered did not have a monitoring system tailored to that particular intervention.

Table 39 **Principals' reports on the types of evidence collected on literacy interventions (n=195)**

Type of evidence	n	%
Testing	73	37
Tests or tests' purpose not named (e.g., pre- and post-tests)	42	22
Tests or tests' purpose named	46	23
Oral language assessments (ITPA/JOST)	12	6
ESOL assessment forms or standard records	10	5
Dibels scale/measures of phonemic awareness	9	5
Observation Survey	8	4
STAR	5	3
Sight words	5	3
Burt	4	2
Letter recognition	4	2
Progressive Achievement Tests (PAT)	2	1
Other named tests	6	3
Observations, anecdotal, teacher monitors	57	29
Running records/reading ages	56	29
IEP/Education Programme review	13	7
Writing/work samples	16	8

Literacy interventions offered concurrently or instead of Reading Recovery

About one-fifth (18 percent) of principals indicated that additional literacy interventions were offered to students at the same time as Reading Recovery, and about one-fifth (19 percent) indicated that other interventions were offered instead of Reading Recovery. Very large and very small schools were less likely than mid-sized schools to offer these other literacy interventions.

The main reasons indicated for offering additional interventions were that:

- they targeted different needs from Reading Recovery (29 percent);
- they could be offered to students who had missed out on Reading Recovery places (21 percent);
- the school had personnel trained in the interventions (15 percent); or
- the school received extra funding for the intervention (7 percent).

Twenty-three different interventions were mentioned in total. Most frequently mentioned was time with a teacher aide (13 percent). Small numbers reported the use of ESOL interventions, Talk to Learn, HPP, phonics programmes, TARP, adult-tutoring, peer-tutoring, school-developed interventions, and interventions provided by either trained school staff, RTLBs or psychologists, or RTLits. Ten other interventions were mentioned by one principal only.

Most indicated that these interventions were used to improve students' general reading skills (21 percent). Others used interventions to improve the specific skills of individual students (11 percent). Others targeted group needs, such as oral language skills (7 percent), phonics skills (5 percent), or ESOL (4 percent). A few other needs targeted by the interventions offered were mentioned by a small number of principals.

Suggested modifications to Reading Recovery

Modifications to better meet the needs of all students

About two-thirds of principals (64 percent) and Reading Recovery teachers (61 percent) considered changes could be made to Reading Recovery to better meet the needs of the students at their school. Teachers from schools with rolls over 199 or contributing schools were more likely than teachers from small or full primary schools to indicate this was the case.

Approximately one-quarter believed changes were not needed (15 percent and 26 percent, respectively) or were not sure (21 percent and 13 percent, respectively).

The most frequently mentioned change by principals and Reading Recovery teachers was increasing funding (44 percent and 34 percent, respectively). Most of the comments about funding were concerned with staffing and therefore places for students (41 percent and 32 percent, respectively).

> Helping non-readers to read must meet many government social objectives as well as educational ones and it is unbelievable that many students miss out because of a lack of funding.

> Funding [should be] made on a needs not a quota basis. We are a small school and are disadvantaged with funding constraints. If [the] Ministry can't provide – we can't fund.

Some comment was also made about the need for funding for related areas, such as time to attend to administrative activities, monitor students' progress, or to collect students from classrooms (7 percent and 2 percent, respectively).

A number of principals and Reading Recovery teachers referred to a need for Reading Recovery to be more flexible (19 percent and 13 percent, respectively). Some of the comments about flexibility related to the recommended entry criteria. Some considered that the age criteria needed to be removed or broadened, so that students not yet ready for Reading Recovery could access the intervention at a more suitable time (8 percent and 8 percent, respectively). These students included boys who were slower in their development than girls, students with inadequate oral language skills, or students who had transferred from other schools and were too old.

> …students who fail Reading Recovery or who are discontinued for lack of progress are worrying. These are mainly boys and I feel they begin in the Reading Recovery intervention when they are too young. They might be able to succeed if left until 7 years old. The assessment is far too rigid.

Other principals and Reading Recovery teachers considered that schools could have more scope to adapt Reading Recovery practices to suit individual or school needs (8 percent and 3 percent, respectively).

> Reading Recovery is very rigid in the procedures to be followed. Children do not always fit the pattern. Teacher knowledge and experience should be respected/valued so that the programme could be more flexible for individual needs.

Some wanted the flexibility to work with different groups of students, in particular, with students other than the lowest performing or younger students (5 percent and 5 percent, respectively).

Issues related to students' home life were mentioned by 6 percent of principals and 11 percent of Reading Recovery teachers. Suggestions included finding better ways to work with parents to increase the focus on literacy and the support of Reading Recovery in the home, as well increasing the emphasis placed on attendance.

Changes to sessions were suggested by 4 percent of principals and 10 percent of Reading Recovery teachers. In particular, a longer instruction time, more time for administration and collecting students from classes, and more than 20 funded sessions were suggested.

> Although its strict procedures are a strength, they are also a weakness, as flexibility is sometimes required, e.g., very slow learners may not be able to complete everything in the half-hour session.

Increasing the input of Reading Recovery teachers into school literacy planning was suggested by 4 percent of principals and 5 percent of Reading Recovery teachers, and increasing the focus on early teaching and, in particular, oral language was mentioned by 3 percent of principals and 5 percent of Reading Recovery teachers. A few other principals and teachers offered other suggestions for improvement such as only having Reading Recovery sessions in the morning.

Modifications to better support students' transition off Reading Recovery

Reading Recovery teachers were asked if they thought changes could be made to better support students' successful transition off Reading Recovery. Two-thirds (66 percent) thought this was the case, and the changes they selected or suggested are shown in Table 40.

Table 40 **Teachers views' on changes to improve the transition off Reading Recovery (n=171)**

Suggested change	*n*	%
More time for Reading Recovery teachers to work in the classroom*	80	47
More time for classroom teachers to observe Reading Recovery students*	79	46
More time for Reading Recovery and classroom teachers to discuss students' needs*	66	39
Training for Reading Recovery teachers to upskill classroom teachers in literacy practices	62	36
More time for Reading Recovery teachers to upskill classroom teachers	52	30
More time for Reading Recovery and classroom teachers to discuss Reading Recovery data	40	23
Training for Reading Recovery teachers to upskill classroom teachers in data analysis	35	21
More time for Reading Recovery teachers to monitor ex-Reading Recovery students	7	4
An intermediary step for Reading Recovery students transitioning off the programme	4	2
Time for Reading Recovery teachers to give ex-Reading Recovery students booster lessons	3	2
Other (e.g., training for teacher aides, more literacy training for teacher trainees)	5	3

* Denotes the three most important changes selected by teachers.

The three changes which were selected the most frequently, and were also rated as the most important, centred around Reading Recovery and classroom teachers increasing their

understanding of each others' work in relation to particular students so the students' needs could be met.

Reading Recovery teachers in decile 1 and 2 schools were more concerned about the analysis and interpretation of data than teachers in higher decile schools. These teachers were more likely to indicate that more training was needed to support Reading Recovery teachers to upskill classroom teachers in data analysis. They also tended to indicate that more time was needed for Reading Recovery and classroom teachers to discuss Reading Recovery data. It is likely that this is related to the amount of time these teachers had been delivering Reading Recovery. Many of the teachers in decile 1 and 2 schools were still training as Reading Recovery teachers.

Some principals and teachers also mentioned that changes could be made to the transition process when asked in general about changes that could be made to Reading Recovery to better support students (8 percent and 12 percent, respectively).

> The whole transition process is weak and unstructured. Exactly when is the Reading Recovery teacher to see children who have come off Reading Recovery and for how long? The transition for the child is also unstructured. All of a sudden they are back in the classroom after 12–20 weeks out. [They need] transition in the last week – the child is in the class for reading then time-out with the Reading Recovery teacher to 'iron' out any challenges for the child.

> Reading Recovery gives a sound base on which to build and children who have been through the programme can later be reminded of these strategies once taught. They quickly respond to extra tuition which suggests lack of reading mileage or books or accessing libraries later on slow the process down. They are still vulnerable up to and beyond three years and need continuing support.

Modifications to better meet the needs of Mäori and Pasifika students

Principals and Reading Recovery teachers were asked if they felt there were changes that could be made to Reading Recovery to better meet the needs of Mäori or Pasifika students. The largest group of principals and teachers were either unsure about whether changes were needed (42 percent and 38 percent, respectively) or did not respond (14 percent and 8 percent, respectively). About one-fifth believed changes were not needed (21 percent and 23 percent, respectively).

About one-quarter of principals (23 percent) and one-third of Reading Recovery teachers (31 percent) considered changes could be made. Teachers from schools with very high Mäori enrolment, and principals of schools located in main urban areas were more likely than other principals and teachers to think this was the case. The most frequently mentioned changes by principals and Reading Recovery teachers were:

• increasing the number of texts relating to Mäori or Pasifika students' experiences and cultures (8 percent and 10 percent, respectively);

- making the age criteria more flexible, so that older students could have access to Reading Recovery, or so that oral language needs could be addressed prior to Reading Recovery (4 percent and 6 percent, respectively);
- improving the techniques used to involve students' families in Reading Recovery (4 percent and 4 percent, respectively);
- focusing on oral language in Year 1 (2 percent and 6 percent, respectively); and
- increasing the focus on oral language during Reading Recovery (1 percent and 4 percent, respectively).

> [We need time for] lots more language-based activities to encourage oral language...

> Generally the attitude of tutors seems to be that the model of [the] Reading Recovery programme fits all children, with little flexibility to cater for children of other races or learning difficulties. To be even more successful I think there should be room for teachers to make some changes to the programme to better suit these children – e.g., older starting age, longer Roaming [Around the Known], more emphasis on oral language, if needed.

A few principals or Reading Recovery teachers suggested that the connections between Reading Recovery and students' culture could be strengthened by using Mäori or Pasifika language and protocols when working with students or seeking teachers of the same culture as students.

> Are middle-aged, Päkehä 'old girls' the best role models?

A range of other suggestions were made by one or two Reading Recovery teachers or principals such as offering Reading Recovery in total immersion units, offering group Reading Recovery sessions, increasing the flexibility of Reading Recovery procedures, increasing time in Reading Recovery to more than 20 weeks, or increasing the session time to enable more time to be spent familiarising students with texts.

> From our experience Pacific Island children need extra time during the introduction to the new book. This may apply to ESOL children as a whole, I don't know. But I think an extra 10 minutes for the new learning in the new book is necessary for vocab development, understanding of many ideas and things they have never heard of, and I think they would need less lessons in the long run if they had this extra 10 minutes added on to their lessons.

Reading Recovery training

Most Reading Recovery teachers (70 percent) stated that the needs of Mäori or Pasifika students were not focused on in their initial Reading Recovery training. A few (15 percent) reported that these needs were covered, and the others (15 percent) were not sure or did not answer the question. In part this might reflect that many of the Reading Recovery teachers in this survey were trained a number of years ago, before recent initiatives in this area. Although we did not specifically ask about their ongoing training, there was some indication that the needs of Mäori and Pasifika students were being addressed in Continuing Contact sessions.

> It is only this year that ESOL children have been mentioned at my Continuing Contact – up until now they were not considered to require special focus.

Of those who did have the needs of Mäori or Pasifika students addressed in their training, the two most common foci mentioned were grammar or language differences (5 percent), and the importance of selecting appropriate texts (5 percent). Other aspects of training were also mentioned including discussions about ESOL students, cultural differences, and building relationships with parents. The presentation of readings about successful approaches for Mäori or Pasifika students and the opportunity to observe teachers working with Mäori or Pasifika students were also mentioned.

When asked if Reading Recovery training could be modified to better meet the needs of Mäori or Pasifika students, the majority were not sure (51 percent), considered that changes were not needed (19 percent), or did not respond (6 percent).

Around one-quarter (23 percent) of Reading Recovery teachers considered changes could be made. Teachers from contributing schools and schools with Mäori enrolment of over 15 percent were more likely than other teachers to think this was the case. The main changes suggested were the inclusion of research or information relating to: meeting the needs of a variety of students (9 percent), cultural differences and protocols (4 percent), and how to teach or assess ESOL students (4 percent).

> I floundered with a Mäori child who made very little progress because of language primarily. How can I tell that a particular student who is ESOL has a learning difficulty or processing disorder or learns slowly in all situations…?

Other suggestions mentioned by a few Reading Recovery teachers included training in teaching approaches which worked well for Mäori or Pasifika students and more information about ways of involving and training parents to support their child's progress, and differences in grammar and language structure.

Conclusions from the Reading Recovery surveys

Nearly all the principals and Reading Recovery teachers, regardless of their school size, decile, type, location, or the ethnic make-up of their school roll, considered that Reading Recovery was working very well or well at their school. Most schools offered Reading Recovery due to its proven effectiveness and because they were funded to do so and therefore were able to allocate staff time. This gives some indication that the Reading Recovery model can be effective in a range of different types of schools with different types of clientele.

School characteristics and student needs

Although most respondents to the surveys indicated Reading Recovery was working well in their school, a comparison of the survey questions by school characteristics revealed some areas of concern for particular groups of schools.

Decile 1 and 2 schools

Lower decile schools received greater staffing allocations for Reading Recovery from the Ministry of Education and provided more top-up of these allocations. Although decile 1 and 2 schools had implementation rates of over 20 percent, principals and teachers reported larger numbers of students missed out in comparison with the numbers reported for higher decile schools.

The decile 1 and 2 schools in this study tended to have newer Reading Recovery teachers who were concerned about developing skills in the analysis and interpretation of data. About one-third of respondents from decile 1 and 2 schools considered that age 6–6½ was not necessarily the best time to offer Reading Recovery due to the number of ESOL students, students with oral language difficulties, and boys they considered not developmentally ready for Reading Recovery presenting at their schools.

Respondents from decile 1 and 2 schools rated their processes for involving parents as less effective than respondents from higher decile schools, indicating that low decile schools may need more support in this area. For example, Reading Recovery teachers could further develop home-school partnerships drawing on the understandings developed from recent initiatives in this area such as the *Home-School Partnership Programme* (Ministry of Education, 2003).

High Mäori enrolment

Principals and Reading Recovery teachers from schools with very high Mäori enrolment were less likely than the respondents from other schools to respond to the questionnaires. Schools with very high Mäori enrolment had larger proportions of students receiving Reading Recovery than schools with lower Mäori enrolment. Teachers from schools with very high Mäori enrolment were more likely than other teachers to consider that age 6–6½ was not necessarily the best time to offer Reading Recovery to all students.

Respondents from these schools were more likely to consider that there were particular aspects of Reading Recovery that met the needs of Mäori and Pasifika students but they were also more likely to indicate that changes could be made to the delivery of Reading Recovery and Reading Recovery training to better meet these needs. Respondents from schools with very high Mäori enrolment considered their processes for involving parents to be less effective than respondents from schools with lower Mäori enrolment. This indicates the need for these schools to have more support to develop partnership programmes with parents.

School location

Respondents from rural schools were less likely than respondents from schools in main urban areas to respond to the questionnaires. Those rural schools that did offer Reading Recovery tended to have high implementation rates. Principals of rural schools reported offering a smaller range of interventions and were less likely to indicate that processes for supporting ex-Reading Recovery students who needed further intervention were very effective, which probably reflected their lower access to personnel, and in particular RTLits and RTLBs, who could provide extra support. This information indicates that rural schools had more barriers to overcome than main urban schools in implementing literacy interventions.

Principals and teachers at schools in main urban areas had different concerns. Along with reporting lower implementation rates and larger numbers of students who missed out in comparison with rural schools, principals at these schools were more likely to think that changes needed to be made to Reading Recovery to better meet the needs of Mäori or Pasifika students.

School type

Some aspects of the implementation of Reading Recovery in contributing schools appeared less effective compared with full primary schools. Although contributing schools were more likely than full primary schools to have larger numbers of teachers on staff who had trained in Reading Recovery, they had lower implementation rates and respondents were more likely to consider that some students missed out on Reading Recovery. Aside from the school allocating less staffing for Reading Recovery the reasons for this difference are unclear.

Principals of contributing schools were less likely than principals of full primary schools to indicate that the processes at their school for ensuring ongoing communication between Reading Recovery and classroom teachers were very effective, and teachers from contributing schools were more likely to think that changes could be made to Reading Recovery to better meet all students' needs, and that changes could be made to Reading Recovery training to better meet the needs of Mäori or Pasifika students.

School size

Respondents from small schools were less likely to respond to the questionnaire. This and the survey data give some indication that it is easier to implement Reading Recovery in mid-sized schools. In general, small and mid-sized schools had high implementation rates. In contrast, very large schools had low implementation rates and respondents reported larger numbers of students missing out in comparison with the numbers reported for smaller schools. Respondents from schools with rolls over 199 were more likely to consider that changes could be made to Reading Recovery to better meet students' needs.

Modifications to Reading Recovery: Are some students missing out?

Although the majority of principals and Reading Recovery teachers considered Reading Recovery to be working well, the majority also considered modifications could be made which would enable the intervention to better meet students' needs. Approximately two-thirds of respondents considered some students had missed out on Reading Recovery in 2003, and the primary reason given for this was a lack of funding for places. In most cases this perception that students were missing out was supported by the implementation data collected from the schools, with respondents from schools with an implementation rate of less than 20 percent being more likely to indicate larger numbers of students missed out. This was particularly the case for large, main urban, and contributing schools. Respondents from decile 1 and 2 schools were an exception to this trend. Although they reported average implementation rates of over 20 percent, they also reported larger numbers of students missing out. Respondents from high decile schools or schools with low Mäori enrolment were also an exception; these schools reported average implementation rates of under 15 percent, but did not report large numbers of students missing out. A similar picture of variable implementation rates is shown in our analysis of the national 2003 data.

The survey data indicate that, with the exception of high decile schools and those with low Mäori enrolment, many schools struggled to meet the needs of all the students who could benefit from Reading Recovery. This shows the need for funding to be provided across the spectrum of schools, but also to be varied to take into account the areas of highest need, in particular, in decile 1 and 2 schools. This provides one likely explanation for why some schools are replacing Reading Recovery with other interventions, and suggests that a close look at the way the staffing is apportioned might be necessary to ensure the distribution more closely represents variance in need.

Effectiveness of the processes surrounding Reading Recovery

Most of the suggested modifications to Reading Recovery related not to the intervention itself but to the structures surrounding it. The transition off Reading Recovery was an area of concern for respondents, with two-thirds of Reading Recovery teachers considering that changes could be made to this area. Responses to the surveys indicate that the approaches taken to students as they made the transition off Reading Recovery varied considerably between schools. Some schools had systems in place for ongoing meetings between Reading Recovery teachers and classroom teachers about students' needs and progress post-Reading Recovery. Others tended to do their communication on paper. At some schools, students were automatically provided with a post-Reading Recovery intervention such as TARP, while at others further interventions occurred only if necessary, or did not occur at all as no personnel were available. At some schools time was provided for the Reading Recovery teacher to work with students in the classroom at the point when Reading Recovery lessons were discontinued, or to give students booster sessions, while at others this time was not allocated.

Reading Recovery teachers considered that students' transition would be better supported if Reading Recovery and classroom teachers were able to spend more time observing each other's work with students, and discussing students' needs.

This data suggests that sharing practices in regard to supporting students as they make the transition off Reading Recovery is an area which could be further emphasised in Reading Recovery training or Continued Contact sessions. An examination of the need to target funds for this area could also be warranted.

A number of respondents considered that their school's processes for ensuring Reading Recovery teachers had input into school literacy planning and professional development were not effective. This may be exacerbated by the fact that many did not work full-time at their school. This indicates a need for literacy leaders to ensure that systems are in place to enable Reading Recovery teachers to share their literacy expertise with the wider school community.

A proliferation of literacy interventions

The majority of the Reading Recovery schools in this study offered other types of literacy interventions to students in Years 1–3. Other than Reading Recovery, the most commonly offered were those provided by a teacher aide, RTLB, or RTLit. ESOL interventions were also common. About one-fifth were offering other interventions to students who they considered needed Reading Recovery, but had missed out on Reading Recovery places. The wide range of literacy interventions offered in schools, and the wide range of other interventions offered at the same time as or instead of Reading Recovery, indicates a proliferation of interventions in Years 1–3 in some schools.

This proliferation is caused by a number of factors, some of which are commented on in this study, namely a desire to provide interventions which best suit the range of student needs and a desire to provide alternatives for students who miss out on Reading Recovery.

The proliferation of literacy interventions observed, as well as other survey data, indicates that some schools lack an overall plan for how their literacy interventions support and complement each other within one year level or as students move through Years 1–3. A similar finding is noted by Timperley, Phillips, and Wiseman (2003). Given that many of the other interventions offered were not reported as being evaluated with the same rigour as Reading Recovery, this raises questions about whether this proliferation is in students' best interests. This finding signals a need for school support in developing an overall literacy plan that is evidence-based and designed so that classroom instruction and specialist interventions work in complementary ways. The importance of such school-based "coherence" for student achievement is demonstrated in the work of Newmann et al. (2001). A national strategy or guidelines may be needed to further support schools in deciding on a package of literacy interventions which best work for their students.

Changes to Reading Recovery to better meet the needs of Mäori and Pasifika students

Approximately one-quarter of principals and one-third of Reading Recovery teachers considered changes needed to be made to Reading Recovery to better meet the needs of Mäori or Pasifika students. It is possible that Mäori or Pasifika teachers may have different views on the efficacy of Reading Recovery for students from their culture in comparison with New Zealand European teachers. We were not able to ascertain if this was the case given that only six Reading Recovery teachers who identified as Mäori, and no teachers who identified as Pasifika, responded to the survey.

Those who considered changes were needed tended to be respondents located in schools with large numbers of Mäori or Pasifika students, that is, schools in main urban areas or schools with high Mäori enrolment. The most frequently recommended change was increased access to more texts related to the interests and cultures of Mäori or Pasifika students.

Most Reading Recovery teachers indicated that the needs of Mäori and Pasifika students had not been addressed in their initial Reading Recovery training, which may in part be explained by the length of time since many of these teachers had been trained. Approximately one-quarter of Reading Recovery teachers thought changes could be made to this training to better meet the needs of Mäori or Pasifika students. The most frequently mentioned change was the inclusion of research or information related to meeting the needs of a variety of students. Other improvements to Reading Recovery or Reading Recovery training to better meet students' needs included placing more emphasis on the connection between Reading Recovery and students' cultures by increasing understanding and use of Mäori or Pasifika languages and protocols, providing more Reading Recovery teachers of the same culture as students, training teachers in te reo Mäori, and finding better ways to involve students' families in Reading Recovery.

One theme which ran through principals' and Reading Recovery teachers' responses to the questionnaire was that school clientele has changed since the development of Reading Recovery. Some mentioned the growth in the numbers of ESOL students or those entering school lacking oral language skills, and considered that Reading Recovery approaches and training needed to be updated in response to this. Some respondents were uncertain about how to cater for ESOL students in Reading Recovery or whether they should be in Reading Recovery. Some suggested extending the age of entry into Reading Recovery so that ESOL students' needs or oral language levels could be addressed prior to Reading Recovery. Others considered that the focus on oral language during Reading Recovery should be increased, or that the emphasis on oral language in early childhood or Year 1 needed to be increased so that students would have higher oral language levels when they got to age 6. It is possible that this lack of knowledge about the fit between Reading Recovery and the needs of these ESOL students and those with low oral language levels is another contributing factor to the decision to cease offering Reading Recovery.

These debates suggest a need for a more co-ordinated approach to the dissemination of research findings about how Reading Recovery can be effective for these groups, and the dissemination of

information about how to assess and address the needs of ESOL students and those with low oral language skills, both prior to and during Reading Recovery. One model, which has been developed to address concerns about low oral language levels, is First Chance.

Delaying entry to Reading Recovery

A substantial proportion (about one-third) of Reading Recovery teachers considered there were some students who would benefit more from Reading Recovery if the recommended entry age were broadened. A number of reasons were given for this. One was that students who transferred to a school were sometimes too old to start Reading Recovery. Other reasons were perceptions that students were not ready for Reading Recovery at the age of 6 due to their ESOL needs, their limited exposure to literacy or oral language, or their level of maturity. These views were more strongly held by those teaching in decile 1–2 schools or schools with high Mäori enrolment. While there may be some accuracy in these beliefs, Phillips, McNaughton, and MacDonald (2004) suggest that such views may contribute to lower expectations of Mäori and Pasifika students and may imply that teachers are not fully utilising the existing cognitive, linguistic, and cultural resources of their students. While delaying entry appears to address the concerns raised by some Reading Recovery teachers, there is evidence that this practice increases the risk for students (McNaughton, 2002). This finding, along with the fact that the majority of Reading Recovery teachers reported their training did not address the needs of Mäori and Pasifika students, suggests that teachers may not be fully aware of the resources their students bring with them to the school environment. This suggests that Reading Recovery teachers may need more support to develop a wider range of strategies for identifying the cognitive, linguistic, and cultural resources of Mäori and Pasifika students.

The flexibility of Reading Recovery

The perceived inflexibility of Reading Recovery was a concern for a small number of respondents who considered Reading Recovery to be too rigid in its structure. Some felt that the possibilities available for schools to adapt Reading Recovery to school or individual student needs were limited; for example, they were unable to include students other than the lowest performing. For many the wish to increase the flexibility of Reading Recovery was related to concerns about cost-effectiveness and wanting to meet the needs of a wider group of students. Some of these concerns could be addressed through other means, for example, by increasing Reading Recovery staffing or the focus on ESOL and oral language levels in Year 1, as mentioned previously.

Summary

The surveys indicate a relatively high level of satisfaction with Reading Recovery, but highlight some equity concerns and issues surrounding its implementation. Responses to the questionnaires indicate that Reading Recovery works the most effectively in mid-sized, mid-to-high decile, and

full primary schools. In particular, there appears to be equity concerns for schools with either low implementation or high needs, that is, large, low decile, main urban, rural, and contributing schools, that are not currently being addressed. Although schools in main urban areas are more likely than those in rural areas to offer Reading Recovery, both these groups of schools have particular needs: low implementation in the case of main urban schools, and access to a range of trained personnel and auxiliary funding for rural schools.

Also shown is the need to support schools so that they are able to offer a coherent approach to meeting students' needs in the years surrounding Reading Recovery, and in particular Year 1 and Year 3. Particular areas highlighted by this survey are:

- the needs of students with low oral language skills in Years 1 and 2;
- the needs of ESOL students in Years 1 and 2 and the fit between Reading Recovery and ESOL interventions;
- the further development of partnership models with parents; and
- the needs of students and class teachers as students make the transition off Reading Recovery.

The first three address areas that particularly impact on Mäori and Pasifika students. Along with a commitment to high implementation, most of the effective Reading Recovery schools selected as case studies had taken steps to address the areas above. Examples of the different strategies they used are provided in Chapter 8 of this report.

6. Themes from the survey: Schools not offering Reading Recovery

Introduction

Ministry of Education data show that the percentage and total number of schools offering Reading Recovery have declined slightly since 1999, and Reading Recovery is more likely to be offered in high decile than low decile schools (Anand & Bennie, 2004, 2005). To provide information which might offer some explanations for this trend the principals of the schools which did not offer Reading Recovery in the sample were asked to complete a questionnaire about their school's prior involvement in Reading Recovery and the reasons why Reading Recovery was not currently offered at their school. Principals were also asked for data on the literacy interventions currently provided at their school to Years 1–3 students, and their views on whether any aspects of these interventions were particularly effective in meeting the needs of Mäori or Pasifika students. A total of 81 principals returned questionnaires. We estimated that the return rate for principals of schools that did not offer Reading Recovery was approximately 58 percent.

To enable similarities and differences to be identified between schools we compared the data in relation to school characteristics. Where statistical differences were found this is indicated in the text with phrases such as "more likely", "less likely", and "were significantly".

Although the overall sample for the survey was representative of New Zealand primary schools, the principals of schools which did not offer Reading Recovery who responded to this questionnaire were approximately twice as likely to be located in rural schools (63 percent), with small rolls of under 53 (42 percent), than those in the general population of primary schools. They were also less likely to be located in contributing schools. Similar numbers of principals from both low and high decile schools responded to the questionnaire but there was a trend for schools with high Mäori enrolment to be over-represented. For the characteristics of the respondents' schools see appendix D.

Prior involvement and interest in Reading Recovery

Approximately half (54 percent) of the principals reported their school had offered Reading Recovery in the past, about one-quarter (28 percent) reported their school had never offered Reading Recovery, and some (17 percent) were not sure. Schools in main urban areas, and

schools with rolls of 53 or more were more likely to have offered Reading Recovery than rural or very small schools. As shown in Table 41, of those schools that had offered Reading Recovery, just over half had stopped doing so in the two years prior to 2004.

Table 41 **When Reading Recovery was last offered (n=81)**

Year	*n*	%
In 2003	11	25
In 2002	12	27
In 2001	2	5
In 2000	3	7
Before 2000	13	30
Not sure/no response	3	7
Total	44	101*

* Percentage does not total 100 as a result of rounding.

Reasons for not offering Reading Recovery

Principals were asked to indicate, from a list of options, the main reasons Reading Recovery was not currently offered at their school as shown in Table 42. On average principals selected four reasons. The main reasons selected were: the cost of Reading Recovery and the fact that other interventions could be offered to more students, a lack of Reading Recovery-trained teachers or teachers who were willing to take Reading Recovery, and perceptions that other interventions were better suited to student needs. A small number (7 percent) were not sure of the reasons why their school did not offer Reading Recovery.

Table 42 **Reasons for not offering Reading Recovery (n=81)**

Reasons	n	%
Funding		
The cost of Reading Recovery	40	49
Other literacy interventions can be provided to more students	27	33
We are unsure about how to apply for Reading Recovery funding	8	10
We are able to get additional funding for other interventions	5	6
Staffing and training		
We do not have Reading Recovery-trained teachers	36	44
We have difficulty finding teachers to train for Reading Recovery	22	27
We have staff trained in other interventions	20	25
We need a distance delivery option for Reading Recovery training	17	21
We are unable to form a Reading Recovery cluster with other schools	15	19
We do not want to release Reading Recovery-trained teachers from class	11	14
Beliefs about student needs		
Other literacy interventions are better suited to our students' needs	35	43
Our literacy beliefs differ from the Reading Recovery philosophy	20	25
We are unable to adapt Reading Recovery approaches sufficiently	19	24
Around 6 years of age does not seem the best time to offer Reading Recovery	14	17
We have too many students with high needs at this school	10	12
We have too many transient students at this school	8	10
Not sure	6	7
Other (e.g., a lack of students needing Reading Recovery)	5	6

We asked those principals who considered staff beliefs about literacy to differ from the Reading Recovery philosophy to describe how these beliefs differed. Most principals in this category mentioned that staff believed in a more flexible approach than that perceived to be used in Reading Recovery. A number of principals commented on the need for Reading Recovery to include the opportunity for small group work. For some this was related to cost-effectiveness and for others, perceived student needs. The principal of a school that had developed an alternative literacy intervention provided by three Reading Recovery-trained classroom teachers commented:

> For many children the opportunity to work in small groups is an advantage. We are not restricted by age or length of programme. The programme can be adapted to best meet the needs of the students concerned.

Other principals held similar views.

> We believe our predominantly Mäori pupils need a carefully scaffolded programme where they can work in a supportive small group.

> Small group work is far more fun, more stimulating than strict one-to-one. Reading Recovery children often had high absenteeism; not so in small groups.

Reading Recovery was also perceived to be inflexible in that the entry criteria excluded students who principals considered needed support. Accordingly, principals used the staffing they would have used for Reading Recovery to provide alternative supports to a wider range of students, or to support a focus on quality early literacy instruction that could replace the need for Reading Recovery.

> The Reading Recovery philosophy of working with the child who scores the lowest in testing, i.e. has the most/highest needs, does not always fit the criteria of 'accelerated progress' within the programme… Often the next layer achieves the success needed/wanted. Sometimes you have to choose between two or more individuals to fill one place that has come available – that is a very hard thing to do. Our small group teaching picks these individuals up. It does not replace classroom instruction – it is as well as. It is successful in achieving higher/greater levels of achievements for more children.

Some preferred to use their funding to keep class sizes small.

> Having a Reading Recovery teacher means that teacher:pupil ratios in classes have to be higher.

A couple of principals noted that Reading Recovery had not been successful at their school.

> We believe that the lowest children in our school are not able to maintain levels when discontinued.

One reason given for this was that Reading Recovery did not have enough emphasis on phonics.

> A phonics-based approach works better for our pupils than the sentence level (whole language) approach....We found that Reading Recovery children were still under-performing at Year 6. Research we have read confirms what we saw as weaknesses in Reading Recovery.

Other principals also commented that phonics approaches better suited the needs of their students.

The experiences of two of the pilot schools in this study show how decisions to cease offering Reading Recovery are the result of the interplay between a number of factors which include changing school clientele, a desire to provide opportunities for a larger number of students, and a perception that Reading Recovery is inflexible.

The principal of an urban low decile school with a high Pasifika roll described how a number of experiences had led the school to stop offering Reading Recovery and adopt an alternative approach to providing early literacy support. In particular, they had found that:

> Reading Recovery was not suitable for ESOL students who spoke no English, and these students 'clogged-up' Reading Recovery.

School managers did not want to take teachers out of the classroom to deliver Reading Recovery as relievers were not able to manage students as well as the classroom teacher. The school tried using non-classroom teachers to deliver Reading Recovery but found these teachers also could not manage the Reading Recovery students' behaviour as they were not known to the children.

School staff did not agree with the Reading Recovery principle of offering the intervention to the lowest performing students and wanted to include some higher functioning students who would make faster progress.

Teachers were not comfortable with the close monitoring of the Reading Recovery tutors and wanted more autonomy over resourcing rather than having to target it for Reading Recovery.

Instead of offering Reading Recovery, the school had developed a focus on quality first teaching and ensured they had good resources to support teachers. Most of the junior teachers at the school were Reading Recovery-trained and their skills were used to run focused individual and group literacy programmes. To support students' literacy development teachers used the Hauraki Early Language Programme (HELP), ran an ESOL programme, and used the phonics-based programme Letterland. Trained teacher aides supported both individual and group programmes. If necessary, teachers also had access to the services of a Special Needs teacher and a RTLB.

The principal of an urban low decile school with a roll which included moderate proportions of Māori, Pasifika, Asian, and students of other ethnicities described how the school's changing clientele had resulted in them stopping Reading Recovery five years ago. There were three main reasons the school had ceased offering Reading Recovery.

- As the school had a large number of students who needed support, one part-time Reading Recovery teacher was not able to meet these needs, and to offer Reading Recovery the school had to increase class sizes. Instead the decision was made to keep junior classes under 20 and offer a focused literacy hour.
- As the number of refugee and ESOL students at the school increased staff found these students were taking up places in Reading Recovery. An ESOL programme was developed which staff considered better met these students' needs.

- Staff had found that Reading Recovery approaches were too focused on text and too inflexible in that they were unable to incorporate current understandings about experiential learning. Teachers had found that refugee students with limited experiences needed experiences with real contexts before undertaking literacy activities. When teachers tried to incorporate these into Reading Recovery they were "growled at" by the tutor.

What support would be needed for schools to offer Reading Recovery?

Almost three-quarters (74 percent) of the principals indicated they would like to be able to offer Reading Recovery in the future. Only a few (14 percent) stated they were not interested in offering Reading Recovery, and a similar number (12 percent) were not sure or did not answer the question.

The principals who indicated they would like to offer Reading Recovery were asked what support or conditions they would require. The most common suggestion was more funding either to pay for a Reading Recovery teacher or their training (36 percent), or for related areas like time for administration and monitoring, or a Reading Recovery room (9 percent).

> Our school could not afford the school-expected component re funding for Reading Recovery. We are a decile 8 school and just don't get enough funding from the MOE. We are struggling! We have tried in the past to train a new Reading Recovery teacher each year because you [the Ministry of Education] provided a greater allocation of hours, BUT this meant we could only work with a very small number of pupils.

The second most common suggestion was improving access to trained Reading Recovery teachers (19 percent). Some principals also suggested they needed more access to release teachers (6 percent).

Some principals highlighted obstacles specific to rural schools which would need to be overcome, such as distance being a barrier to forming a cluster, to attracting release teachers, or for students travelling to the nearest trained Reading Recovery teacher (9 percent).

> We were part of a cluster – the travel between the schools involved is considerable so not enough money is provided to make the intervention a viable option.

Others mentioned that their school was small and would need more students with a need for Reading Recovery to make the expense of the programme and its associated costs worthwhile (6 percent).

Some of the principals of kura and schools with immersion units commented on the lack of Reading Recovery training and resources available to support the delivery of Reading Recovery in te reo Māori and the lack of personnel who could provide a bridge between Reading Recovery philosophy and Te Aho Matua (5 percent).

There have been no resources in te reo Mäori for a kura ever yet invented. It would be wonderful to even see Reading Recovery and the programmes or strategies available for our staff and their professional development.

We need to be updated about Reading Recovery philosophy i roto i te reo [in Mäori].

Other support or conditions mentioned by a small number of principals included sufficient texts, changing the entry criteria so that they were able to make Reading Recovery available to a wider age group or students other than the lowest performing, and increasing the ability of schools to individualise delivery.

Literacy interventions offered to Years 1–3 students

To provide a picture of the interventions schools offered instead of Reading Recovery, principals were asked for data on the literacy interventions at their school designed specifically for students with literacy difficulties in Years 1–3. Although most principals indicated whether or not an intervention was offered, an average of 19 percent did not indicate the year level each intervention was offered at, and an average of 28 percent did not provide current ethnicity data. Some principals gave a reason for their non-responses, for example, that an intervention was offered at the school but no students were currently receiving it, or that this data was time-consuming to obtain. Consequently the year level data in Table 44 and the ethnicity data in Table 45 and 46 should be interpreted with caution.

Type of intervention offered

At most schools (85 percent) some form of literacy intervention, designed specifically for students with literacy difficulties, was offered to students in Years 1–3, as shown in Table 43. In total, approximately 21 different interventions were mentioned. The number of literacy interventions offered by these schools ranged from one to eight, with three-quarters (75 percent) offering two to five interventions. The average number of interventions offered was four, one less than Reading Recovery schools. Most commonly offered were interventions provided by teacher aides, RTLBs, or RTLits, and phonics programmes. Jolly Phonics[40] was the intervention offered to the most students overall.

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[40] Some principals indicated that Jolly Phonics or other phonics interventions were offered to all students in a particular year level. This may have resulted in an inflation of the numbers receiving phonics interventions in comparison to other interventions.

Table 43 **Types of literacy interventions offered to Years 1–3 students (n=81)**

Intervention	*n*	%
No interventions offered/non-response	12	15
Teacher aide*	59	73
Resource Teacher of Learning and Behaviour (RTLB)	44	54
Resource Teacher of Literacy (RTLit)	26	32
Jolly Phonics*	23	28
Other phonics programmes*	12	15
Pause, Prompt, and Praise (PPP)	16	20
ESOL interventions	15	19
Parent-tutor	14	17
Talk to Learn	13	16
SPELD*	11	14
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)*	10	12
Trained school staff including ex-Reading Recovery teachers*	9	11
TARP/Rainbow readers*	5	6
Computer-based interventions (e.g., SuccessMaker)	3	4
Individual Education Programme (IEP)	3	4
Other (e.g., Hauraki Early Language Programme)	7	8

* Indicates interventions mentioned as better suited than Reading Recovery to student needs.

Schools with rolls of over 104 and those located in main urban areas were more likely than small and rural schools to offer interventions. In particular, larger, main urban, and contributing[41] schools were more likely to offer ESOL interventions than other types of schools. Contributing schools were more likely to offer a greater range of interventions than full primary or composite schools. There were no differences in whether or not schools offered interventions, or the type of intervention they offered, by decile except that higher decile schools were more likely to offer SPELD.

We asked principals to name or describe any literacy interventions they considered were better suited than Reading Recovery to student needs. The interventions mentioned by four or more principals are indicated in Table 43. Most often listed were interventions provided by a teacher aide or trained school staff, Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP), and phonics programmes.

When asked about the specific needs being targeted by these particular literacy interventions, a number of principals made general statements about the need to improve students' reading skills, particularly, for those reading below their age. Other frequently mentioned needs were specific literacy problems, phonics skills, and oral language skills. Less frequently mentioned needs included improving reading comprehension, and reading in te reo Māori.

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[41] In the non-Reading Recovery returns, there was a significant association between school type and size, with contributing schools being more likely than full primary schools to have large rolls. Therefore any differences associated with school type may well be related to the size of the school.

A comparison of Reading Recovery and non-Reading Recovery schools

Both schools which did not offer Reading Recovery and those which did, offered a similar range of literacy interventions, but Reading Recovery schools offered one more on average which probably reflects the fact that they offered Reading Recovery, and were large schools, and these schools tended to offer more interventions. There were some differences in the types of interventions offered to students depending on whether they attended a non-Reading Recovery or Reading Recovery school. Schools which did not offer Reading Recovery were less likely than those that did to offer interventions with teacher aides, ESOL interventions, or the Hauraki Early Language Programme. Again some of these differences probably reflect differences in the characteristics of the schools. Many of the non-Reading Recovery schools were small rural schools, whereas many of the Reading Recovery schools were large schools located in main urban centres. These schools were therefore likely to have more ESOL students.

Year levels at which interventions were offered

Table 44 shows the year levels at which the literacy interventions were offered. Most were offered across Years 1–3. A few, such as Jolly Phonics and Talk to Learn tended to be offered to younger students, and some, such as an intervention provided by a RTLit or parent-tutor, tended to be offered to older students.

Table 44 **Year levels literacy interventions offered (n=81)**

	Year 1		Year 2		Year 3	
Type of literacy intervention	**n**	**%**	**n**	**%**	**n**	**%**
Teacher aide	42	52	46	58	40	49
Resource Teacher of Learning and Behaviour (RTLB)	27	33	29	36	31	38
Resource Teacher of Literacy (RTLit)	12	15	15	19	20	25
Jolly Phonics	18	22	18	22	12	15
Other phonics programmes	9	11	9	11	9	11
Pause, Prompt, and Praise (PPP)	8	10	11	14	13	16
ESOL interventions	7	9	7	9	7	9
Parent-tutor	3	4	7	9	9	11
Talk to Learn	11	14	10	12	5	6
SPELD	4	5	5	6	6	7
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	5	6	7	9	5	6
Trained school staff including ex-Reading Recovery teachers	7	9	9	11	4	5
Other	8	10	8	10	8	10

* This table shows data for only those interventions offered by nine or more schools.

Ethnicity of students receiving interventions

Table 45 shows the ethnicity of the students receiving each literacy intervention. Phonics interventions and those offered by a teacher aide were offered to the most students.

Table 45 **Number of Years 1–3 students receiving literacy interventions by ethnicity**

| Type of literacy intervention | Ethnicity | | | | | |
	Mäori n	NZ Euro n	Pasifika n	Asian n	Other n	Total n
Jolly Phonics	243	311	60	49	39	702
Other phonics interventions	149	85	46	126	30	436
Teacher aide	201	160	35	14	13	423
ESOL interventions	5	1	70	102	26	204
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	130	11	1	-	1	143
Resource Teacher of Learning and Behaviour (RTLB)	85	41	2	1	1	130
Talk to Learn	63	35	18	6	4	126
Parent-tutor	76	17	1	1	2	97
Pause, Prompt, and Praise (PPP)	44	31	-	-	-	75
Trained school staff including ex-Reading Recovery teachers	18	46	9	2	-	75
Resource Teacher of Literacy (RTLit)	39	21	1	-	-	61
SPELD	1	21	-	-	-	22
Other	125	40	3	1	6	175

* This table shows data for only those interventions offered by nine or more schools.

Table 46 shows the approximate percentage of students receiving each literacy intervention by ethnic group.[42] These data give some indication of trends by ethnicity which should be interpreted with caution given the incomplete nature of the data.

Asian, Pasifika, and students from other ethnicities tended to be offered ESOL interventions; and Mäori students, Hei Awhiawhi Tamariki ki te Panui Pukapuka and parent-tutor or teacher aide interventions. Smaller proportions of New Zealand European students were offered phonics interventions in comparison with other ethnic groups.

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[42] This percentage was calculated as a proportion of the total of each ethnic group in Years 1–3 by estimating the numbers in each ethnic group in Years 1–3 from the total school roll, year level, and ethnicity data.

Table 46 **Approximate percentage of Years 1–3 students receiving literacy interventions as a proportion of each ethnic group in Years 1–3**

Type of literacy intervention	Ethnicity				
	Mäori %	NZ Euro %	Pasifika %	Asian %	Other %
Jolly Phonics**	58	35	47	43	85
Other phonics interventions**	77	35	97	100	***
Teacher aide	25	16	16	4	8
ESOL interventions	1	-	40	44	51
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	53	5	6	-	***
Resource Teacher of Learning and Behaviour (RTLB)	16	4	2	1	1
Talk to Learn	16	9	21	6	***
Parent-tutor	60	9	6	9	***
Pause, Prompt, and Praise (PPP)	12	2	-	-	-
Trained school staff including ex-Reading Recovery teachers	10	11	19	4	-
Resource Teacher of Literacy (RTLit)	12	3	2	-	-

*   This table shows data for only those interventions offered by nine or more schools or to 30 or more students.

**   In some cases Jolly Phonic or other phonics interventions were offered to all students in a particular year level. This may have resulted in an inflation of the numbers receiving these interventions in comparison to other interventions.

***   The total number of students at each school in this ethnic group was too small for this proportion to be reliable.

It was not possible to calculate the approximate proportion of students being offered at least one intervention in Years 1–3 as these figures may be inflated due to some students being offered more than one intervention. But this data does give some indication that schools which do not offer Reading Recovery may be offering alternative interventions to a larger proportion of students compared with schools which do offer Reading Recovery. Mäori, Pasifika, Asian, and students of other ethnicities also appear to be over-represented in this data, and this over-representation appears larger than that observed for Reading Recovery data, which indicates that these schools may be offering some interventions to proportionally more of their Mäori and Pasifika students compared with schools which offer Reading Recovery. One of the main reasons why these principals did not offer Reading Recovery was that they wanted to be able to offer other interventions to more students. This information gives some indication that this may be the case.

Evidence collected on effectiveness of literacy interventions

Around two-thirds (69 percent) of the schools collected evidence on the effectiveness of some or all of the literacy interventions they offered. Some did not collect evidence (6 percent) or did not respond to the question (25 percent). The interventions for which evidence was collected are shown in Table 47. The principals of larger schools were more likely to indicate they collected evidence than the principals of small schools.

In most cases fewer principals reported that evidence was collected in comparison to the total number reporting offering the intervention. There were two main exceptions to this trend: HPP

and interventions offered by trained school staff. For both these interventions similar numbers of schools offered the intervention and collected evidence on its effectiveness.

Table 47 **Literacy interventions which had evidence collected (n=81)**

Type of literacy intervention	Interventions evidence collected for		Total offering this intervention
	n	%	%
No evidence collected/no response	25	31	NA
Teacher aide	16	20	73
Resource Teacher of Learning and Behaviour (RTLB)	10	12	54
Trained school staff including ex-Reading Recovery teachers	9	11	11
Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	8	10	12
Other phonics programmes	7	9	15
Resource teacher of Lite racy (RTLit)	6	7	32
Jolly Phonics	4	5	28
SPELD	4	5	16
ESOL interventions	3	4	19
Talk to Learn	3	4	16
Pause, Prompt, and Praise (PPP)	3	4	20
Individual Education Programmes (IEP)	3	4	4
Other (e.g., TARP)	13	16	NA

The main types of evidence collected are shown in Table 48. Like the data from schools which offered Reading Recovery, much of the evidence cited was collected as part of usual school assessments, such as the recording of data on reading ages. Approximately two-fifths (42 percent) of schools used both standard school assessments and additional forms of assessment to measure effectiveness, about one-eighth (14 percent) used standard school assessments only, and a few (10 percent) used additional forms of assessment only. Given that approximately half of the schools did not report they collected evidence or did not use any additional measures to assess effectiveness, it appears that many of the interventions offered did not have a monitoring system tailored to that particular intervention. With the exception of the Reading Recovery programme, a similar pattern is shown in the schools offering Reading Recovery.

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Table 48 **Types of evidence collected (n=81)**

Type of evidence	*n*	%
Testing	39	48
Tests or tests' purpose not named (e.g., pre- and post-tests)	23	28
Tests or tests' purpose named	25	31
Burt	8	10
Dibels scale/measures of phonemic awareness	5	6
Observation Survey	6	7
Oral Language assessments (ITPA/JOST)	4	5
STAR	3	4
Sight words	3	4
Prose word banks	3	4
Progressive Achievement Tests (PAT)	3	4
Letter recognition	3	4
ESOL assessment forms or standard records	1	1
Other named tests	9	11
Running records/reading ages	33	41
General monitoring (e.g., teacher observation, progress recorded)	22	27
Writing/work samples	6	7
IEP/Education Programme review	6	7
Other	3	4

Effectiveness of literacy interventions for Mäori and Pasifika students

The principals were asked if there were any aspects of the literacy interventions at their schools they considered particularly effective in meeting the needs of Mäori or Pasifika students. The majority either did not respond to this question (37 percent), did not consider any aspects to be particularly effective (17 percent), or were not sure (14 percent).

About one-third (32 percent) considered there were aspects which were particularly effective. Principals from decile 1 and 2 schools were more likely than the principals of higher decile schools to consider this was the case. The largest group (9 percent) made general comments about an intervention at their school which was effective as it was well matched to the needs students presented with. In particular, oral language, ESOL, and phonics interventions were mentioned.

> The phonics approach builds on the language knowledge they bring to school better than does the Whole Language approach.

Some principals felt that working in small groups (7 percent) or using kinaesthetic learning techniques (5 percent) were particularly effective for Mäori or Pasifika students. Other aspects cited by a small number of principals included the ability to individualise the intervention for each student, one-on-one teaching, relationship building between teacher and student, having a teacher of a similar ethnicity, students being out of class and away from distractions, involving parents, and gathering monitoring data. Most of these aspects are similar to those valued by Reading Recovery teachers.

Summary

The majority of the schools which did not offer Reading Recovery were small schools or those located in rural communities. There is an association between these characteristics, with schools in rural communities being more likely to have small rolls. Rural schools also have a higher proportion of Mäori students than other schools. Therefore the lower take-up of Reading Recovery in these schools creates an inequity for Mäori students.

Over half of the schools that currently did not offer Reading Recovery had done so in the past, and half of these schools had stopped offering Reading Recovery in the last two years. A decrease in schools offering Reading Recovery since 1999 is noted by the Ministry of Education (Anand & Bennie, 2005).

Although many schools had ceased to offer Reading Recovery, the majority of principals were still interested in offering Reading Recovery in the future. The main reasons Reading Recovery was not offered were cost and a lack of access to trained Reading Recovery teachers or those who were willing to train. The amelioration of these factors were the main requirements necessary to assist the introduction or re-introduction of Reading Recovery. Depending on school characteristics, other supports were also mentioned. Isolated rural schools required increased access to Reading Recovery clusters and funding for travel and relievers. Kura or schools with immersion units required training and resources in te reo Mäori and more exploration of the fit between Reading Recovery and Te Aho Matua philosophies.

A desire to provide interventions that better suited a wider range of student needs than could be catered for by allocating staffing to Reading Recovery was another key reason why Reading Recovery was not offered. The changing clientele in primary schools, for example, a growth in numbers of ESOL students and those entering school lacking oral language skills, had resulted in a change in priorities in some schools.

Some principals were concerned that the recommended Reading Recovery selection criteria excluded some students who could benefit from Reading Recovery. Others perceived Reading Recovery to be inflexible in that they were not able to adapt Reading Recovery to suit either individual needs or the needs of particular groups of students. Many of these concerns stemmed from principals' desires to provide interventions to meet a wider range of student needs.

Most schools offered a range of literacy interventions to students in Years 1–3. Most commonly offered were interventions provided by a teacher aide, RTLB, or RTLit and phonics programmes. Phonics interventions were offered to the largest number of students, and in some cases, whole classes. Interventions provided by a teacher aide or trained school staff, HPP, and phonics programmes were viewed by some principals as better meeting student needs in comparison with Reading Recovery. Comments by some principals indicated that schools with ex-Reading Recovery-trained teachers were able to utilise the skills of these teachers to provide interventions which they considered better met student or school needs.

These findings suggest that if increasing the number of schools offering Reading Recovery is a priority, then non-Reading Recovery principals could be targeted for literacy information sessions to show how Reading Recovery can support students' needs. The fit between Reading Recovery and ESOL interventions is another area that could be explored.

Comparison of non-Reading Recovery and Reading Recovery schools

Which schools did and did not offer Reading Recovery?

The principals who responded to the non-Reading Recovery questionnaires were approximately twice as likely to be located in rural schools, or schools with very small rolls, than those in the general population of primary schools. In contrast the principals and teachers who responded to the Reading Recovery questionnaires were less likely to be located in small or rural schools, or schools with high Mäori enrolment, and were more likely to be in very large or main urban schools.

What types of interventions were offered and to whom?

Both schools which did offer Reading Recovery, and those which did not, offered a similar range of literacy interventions, but Reading Recovery schools offered one more on average which probably reflects the fact that Reading Recovery adds another intervention into the mix, and the larger size of these schools. There were some differences in the types of interventions offered to students depending on whether they attended a non-Reading Recovery or Reading Recovery school, some of which also probably reflect school characteristics. Schools that did not offer Reading Recovery were less likely than those that did to offer interventions with teacher aides, ESOL interventions, or the Hauraki Early Language Programme.

A comparison of the data on the approximate percentage of students receiving each literacy intervention by ethnic group (in Table 37 and 46) gives some tentative indications that schools which did not offer Reading Recovery were able to provide interventions to a larger proportion of their Years 1–3 students, and in particular to Mäori and Pasifika students, than schools which offered Reading Recovery. Given the incomplete nature of this data this trend should be interpreted with caution.

Monitoring of interventions other than Reading Recovery

Although both schools which did, and did not offer Reading Recovery provided students with other literacy interventions, with one or two exceptions, many schools did not appear to be monitoring the effectiveness of these interventions beyond collecting usual school-wide data such as Running Record information. If you take Reading Recovery out of the equation the proportion of both Reading Recovery and non-Reading Recovery principals who noted they collected evidence to monitor interventions at their school was about the same. The proliferation of literacy

interventions observed in both Reading Recovery and non-Reading Recovery schools, along with this lack of targeted monitoring suggests a need for a more coherent and evidenced-based literacy intervention strategy in Years 1–3. This coherence was observed in the effective Reading Recovery schools selected as case studies in regard to their approach to literacy at a school-wide level.

7. Perspectives of focus group participants

Introduction

As part of this research, Reading Recovery tutors conducted a total of 30 focus groups with Reading Recovery teachers and training teachers from a sample of their Continuing Contact groups. The focus groups had a dual purpose: to collect qualitative information to complement the information gathered via the survey, and to provide a mechanism for encouraging debate about the central themes of the research.

Participants in each focus group debated seven key questions about the effectiveness of Reading Recovery, and the structures that surround it, in supporting students' long-term progress. A summary of their responses is given here. On the whole, the views of focus group participants reflect those of Reading Recovery teachers already discussed in this report; therefore only key comments and concerns are highlighted in this section.

Aspects of Reading Recovery which support the long-term progress of all students

The Reading Recovery model

When focus group participants were asked about the aspects of Reading Recovery that supported students' long-term progress, most frequently mentioned was that Reading Recovery provided an opportunity to teach a range of both phonological processing skills and comprehension strategies and provided students with the metacognitive skills needed for independent learning in the classroom (26 groups).

> Children learn strategies required for effective, independent reading and writing.

Other aspects of Reading Recovery considered important were that it:

- catered for individual needs (24 groups);
- was provided daily which supported consistency (18 groups);
- was provided outside the classroom and therefore there were no interruptions (11 groups);
- supported students to see themselves as successful, which increased their motivation, and teacher expectations (13 groups);

- was holistic and focused on the use of a range of strategies for both reading and writing (12 groups);
- was an individualised intervention which started from where the child was at, and moved to the next step when the child was ready (10 groups);
- enabled Reading Recovery teachers to build positive relationships with students which improved students' self-esteem (10 groups). This improved self-esteem could be a catalyst for changes in behaviour as well as learning (10 groups);
- was a structured and consistent intervention which gave students a feeling of security (8 groups);
- was an early intervention, catching students before they perceived themselves to have failed (7 groups);
- used specially trained teachers (7 groups); and
- was research-based (6 groups).

Monitoring

The monitoring of students was also considered to contribute to support students' long-term progress, and in particular:

- the ongoing monitoring of discontinued students which showed the benefits of Reading Recovery over time and identified students needing extra support (18 groups);
- the data which provided concrete evidence of progress and improved accountability (6 groups); and
- the specific analysis of a student's current performance, which allowed teachers to match instructional strategies to individual strengths and weaknesses (4 groups).

Communication and transition

Participants in many (15) groups suggested that the close liaison between the Reading Recovery and class teacher throughout Reading Recovery was a vital component of the intervention, and one that supported students' transition. Some (5) groups noted that if the classroom teacher was also the Reading Recovery teacher, this allowed for a "seamless transition" when the series of Reading Recovery lessons ended, as students' needs were well known. The fact that Reading Recovery linked with the classroom programme was considered to support students (4 groups), as was discontinuing students at the level of their peers (4 groups). A few observed that the future progress of students depended largely on the quality of classroom teaching, and the consistency of literacy instruction (4 groups).

Professional development and support

Many (18) groups reported that the guidance offered to them by tutors assisted them to support students. In particular two areas were mentioned: the ongoing Continuing Contact sessions which

kept Reading Recovery teachers focused and up-to-date, and the visiting tutors who offered advice about students whose progress was slow. In turn Reading Recovery teachers wer e utilised as a literacy resource person by teachers and teacher aides, which focus group participants thought improved these teachers' ability to also better support students (9 groups).

Other effective aspects

The connections Reading Recovery facilitated with parents could act to increase home support of school literacy programmes, and therefore were viewed as an important aspect of the intervention (10 groups). Participants in some (5) groups considered that support from the board of trustees, principals, and the management team, either in the form of resources or recognition, also made a difference. Other aspects were mentioned in a couple of groups, including the utility of a team approach to selecting students for Reading Recovery, and the power of "Roaming Around the Known" time.

Aspects of Reading Recovery which support the long-term progress of Mäori and Pasifika students

When considering the degree to which Reading Recovery was an effective intervention for Mäori and Pasifika students some participants observed that Reading Recovery was effective regardless of student ethnicity.

> Reading Recovery is flexible enough to meet the needs of any cultural group.

> There is no difference – a child is a child.

Others considered there were aspects of Reading Recovery that made it an intervention particularly effective for Mäori and Pasifika students. Most commonly mentioned were that:

- Reading Recovery provided opportunities for teachers to have contact with parents about their child's literacy development, which helped their child to progress (19 groups);
- one-on-one instruction improved students' oral language skills due to the modelling which occurred (17 groups);
- Reading Recovery improved Mäori and Pasifika students' self-esteem and confidence (15 groups);
- the regularity of Reading Recovery, and the use of a consistent structure, helped students to know what was expected of them (9 groups);
- the individualised nature of Reading Recovery allowed teachers to cater for individual strengths, problem areas, and learning styles (8 groups);
- the holistic nature of Reading Recovery supported students to develop a range of strategies for both reading and writing, such as phonological processing skills, vocabulary knowledge, and reading for meaning (7 groups);

- the relationship building which occurred with the Reading Recovery teacher built student trust (7 groups), and Reading Recovery provided a safe environment for students, particularly those from Pasifika backgrounds, to ask questions (4 groups);
- teachers were able to select texts that students would relate to (6 groups), and tailor activities to each student's experiences (5 groups);
- the lack of interruptions enabled students to remain focused (4 groups); and
- the problem-solving and self-regulation strategies which students learnt assisted them to take responsibility for their own learning (4 groups).

A few other ways Reading Recovery could support the progress of Māori or Pasifika students were mentioned in a couple of focus groups, such as the combined use of English and te reo Māori. A few considered that participating in Reading Recovery could increase students' awareness of the importance of literacy and raise their expectations of themselves. Similarly, a student's involvement in Reading Recovery could function to raise teachers' and classmates' expectations of this student and could raise the status of school-like literacy activities in the student's home.

Accessing Reading Recovery

Do some students miss out?

Like the survey respondents, some participants in most (26) of the focus groups considered that some students missed out on Reading Recovery at their school. A variety of reasons for this were given which mostly related to low implementation levels caused by a lack of funding for staffing. Participants in most (21) groups commented that if only the very lowest achieving students received Reading Recovery, these students could stay in for a long time and the students one step up from them missed out. Some had observed increasing numbers of ESOL students or students with lower oral language levels and social skills staying in Reading Recovery for a long time.

A lack of places could result in some students remaining on the waiting list until they were too old by the time a space became available (12 groups). The difficulty of predicting a school's needs for the next year could make it hard to accurately allocate the right amount of staffing, and could result in some students missing out (8 groups), and the timing of birthdays could lead to some students missing out because of a backlog over the summer holidays (8 groups). Transferring students who had started Reading Recovery at their previous school caused others to miss out because they were placed at the top of the waiting list (8 groups), and in some cases transferring students who needed Reading Recovery missed out due to insufficient places (5 groups).

Participants in some groups considered that one of the reasons for low implementation was that some schools had less commitment to Reading Recovery and did not top up MOE staffing allocation (6 groups). Other common reasons for students missing out that were not related to staffing were also given. Transient students often missed out because they moved before a place

was available or because schools were reluctant to make Reading Recovery available to students who may move on again (20 groups).

> If it comes down to a choice of two very similar children, the child who is seen as staying on in the school may be given preference over the child who we know is moving.

Absenteeism could also influence whether a child had access to, or remained on, Reading Recovery (10 groups).

Some reported that ORRS[43]- or ESOL-funded students sometimes did not get access to Reading Recovery because "some schools do not like children double-dipping" (10 groups). Students with special needs, such as those with very short attention spans, Foetal Alcohol Syndrome, or extreme behaviour problems, were sometimes excluded from Reading Recovery in favour of students who would make faster progress (9 groups). In some cases ORRS- or ESOL-funded students were put into programmes to cater for their special needs (4 groups) and by the time they had finished these other interventions, they were too old for Reading Recovery.

Access was restricted for some students due to a lack of teachers. Some participants noted that students in full immersion units did not have access to Reading Recovery (4 groups). Others suggested that some students in small rural schools were not able to access Reading Recovery as there were no teachers or relievers available who were prepared to travel to these schools (4 groups).

Other reasons for students missing out were mentioned in a couple of groups, such as students in low decile schools being more likely to miss out due to the large numbers who needed Reading Recovery in these schools. A few commented that if teachers had to make a decision about places, some would offer Reading Recovery to students who had better home support.

Modifications to improve access

Focus group participants considered increasing Ministry of Education funding for staffing was the main way access to Reading Recovery could be improved for students (23 groups). As a teacher from a very low socioeconomic area with a high number of Mäori and Pasifika students said:

> There is a huge discrepancy between funding and need.

A number of alterations to the way staffing allocations were organised were suggested by the groups. These were:

- having extra staffing allocations available for schools to access in times of higher need or for transferring students (10 groups);
- increasing the staffing allocated to schools with higher needs (5 groups); and

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[43] Students with special education needs are funded through the Ongoing and Reviewable Resourcing Schemes (ORRS).

- encouraging schools to train more teachers in Reading Recovery so they could be responsive in times of higher need (4 groups).

To encourage schools to top up the Ministry of Education Reading Recovery staffing allocation, focus group participants suggested that school management needed to be better informed about Reading Recovery to ensure that it was valued and prioritised (7 groups). This could involve regular Ministry of Education-based training on how to resource Reading Recovery, or by setting up structures in schools which supported the Reading Recovery teacher to liaise with school management.

Participants in nearly half (14) of the groups suggested that access could be improved by broadening the recommended age for entering Reading Recovery. This would allow older students to enter Reading Recovery and allow time for ESOL students to have access to an oral language programme before Reading Recovery. A related suggestion was to reduce the number of students needing Reading Recovery by offering higher quality first teaching and oral enrichment programmes for 5-year-olds (4 groups).

Other modifications that could improve access were suggested in a couple of focus groups. These included:

- encouraging more teachers to train by offering a 2-year training option;
- employing itinerant Reading Recovery teachers who could follow transient students to non-Reading Recovery schools;
- having clearer criteria or review points for students with special needs who potentially could be better served by other interventions; and
- involving other agencies or specialists to ensure Reading Recovery reached the right clients.

Obstacles to effective implementation

When asked if there were any issues at their school which hindered the effective implementation of Reading Recovery, the most common response was a lack of funding or Ministry of Education staffing allocations (20 groups). A lack of resourcing in other areas could also be a hindrance. Staffing was a concern for some who lacked suitable release teachers (12 groups), or trained Reading Recovery teachers (3 groups). Others observed that a lack of a dedicated space for Reading Recovery led to interruptions to their programme (9 groups), and some lacked access to a wide range of texts, or commented on the shortage of readers on topics within the experience of some Mäori or Pasifika students (5 groups). A few groups noted that a lack of funding for Continuing Contact sessions, or funds available to pay for travel time for teachers in a cluster impacted on the effectiveness of Reading Recovery at their school.

A lack of support for students who had been discontinued from Reading Recovery was mentioned in some groups. Some considered that more time was needed to monitor discontinued students (8

groups), or to provide booster lessons or extend the number of Reading Recovery lessons (6 groups).

Other participants considered they did not have enough instructional time during each session, for example, to focus on extending and enriching oral language for those students who needed it (8 groups). Some needed more time between lessons to allow for students and release teachers to come and go or for Reading Recovery teachers to prepare themselves for the next lesson, especially if the Reading Recovery room was far away from the classrooms (6 groups).

The second most commonly mentioned hindrance concerned students' home life. Absenteeism was a concern for many (20 groups), as was a perceived lack of parental support of education or home literacy activities (16 groups). Some noted that transient students could affect funding and classroom dynamics (8 groups), and that the behavioural, health, emotional, or social problems of the students who entered Reading Recovery could impact on their learning, for example, if they lacked a healthy diet or sleep (8 groups). Difficulties in communicating with parents in their language were also mentioned in a couple of groups.

The context of the school could impact on the effectiveness of Reading Recovery, with participants in more than half (18) of the groups reporting that interruptions caused by timetable changes or activities could cause Reading Recovery to "take a back seat". Others noted that Reading Recovery was considered low priority or not cost-effective enough by their principal or board of trustees (15 groups). Some thought that the teachers, teacher aides, or principals at their schools lacked knowledge about Reading Recovery and students' ongoing needs (8 groups).

> The effectiveness of Reading Recovery in any particular school is largely dependent on how the principal feels about the intervention and how decisions are made.

Some focus groups discussed how the wider school literacy programme did not always support Reading Recovery, for example, some teachers excluded Reading Recovery students from reading instruction in the classroom, or did not have daily reading and writing sessions (6 groups). Others noted that class teachers did not always take the advice given by the Reading Recovery teacher and did not put students in appropriate reading groups at the point lessons were discontinued (7 groups). A lack of quality literacy teaching or inexperienced teachers in the junior classroom could leave too many students with low levels of reading at 6 years (4 groups). A few suggested that competition from other interventions, or students having too many interventions, could cause Reading Recovery to be less effective.

Other areas which impacted on the effectiveness of Reading Recovery mentioned in a couple of focus groups were that isolation was a barrier for rural schools, and workload could be a concern for Reading Recovery teachers who were also class teachers.

Modifications to better support the long-term progress of all students

When asked if modifications could be made to Reading Recovery or its implementation to better support students' long-term progress, the majority of the suggestions offered were concerned with the structures surrounding Reading Recovery rather than the nature of the instructional strategies used in the intervention.

Focus group participants considered that more time needed to be allocated for monitoring and supporting discontinued students (24 groups). They observed that the results of ongoing monitoring were often not used due to lack of resources or staffing, and that a trained person needed to be employed either to analyse the results or to provide appropriate further support.

> We have collected valuable information about each child, which is analysed and reported and given to a busy classroom teacher who does not have time to action the recommendations.

In half (15) of the groups, participants considered that students' long-term progress would be improved if more time was available for Reading Recovery teachers to assist the classroom teacher, and work alongside discontinued students in the classroom. Some suggested that Reading Recovery teachers could be funded to provide further intervention through booster lessons or small group follow-ups (10 groups).

Increasing the connections between the school programme and Reading Recovery was also suggested. This could be achieved by increasing the amount of whole staff professional development to ensure consistency in the strategies used to support students throughout the school (5 groups), or by giving all junior teachers Reading Recovery training (4 groups) or by giving teachers release time to observe Reading Recovery sessions with their students (5 groups). Other suggestions included having senior management observe Reading Recovery training or providing college of education students with opportunities to learn about and observe Reading Recovery.

In almost half (13) of the groups participants commented that Reading Recovery was predicated on good quality first teaching and this needed to be a focus in schools. This could be achieved through the use of First Chance or by employing experienced, high quality staff.

> All junior teachers need to be effective literacy teachers with high expectations...

Some commented on the importance of referred students getting support quickly (6 groups).

> Referred children who do not have RTLit or RTLB assistance need more support. These are the hardest children to teach and we give them to the teacher aides or 'granny helpers' – the least experienced teachers.

A few suggested that more attention needed to be paid to identifying students' needs earlier on, for example, by providing better hearing and sight screening to sort out any problems before students entered Reading Recovery.

A few other modifications to the supports around Reading Recovery were suggested to better support students' long-term progress, for example, providing opportunities for extra mileage at school for students who lacked home support (5 groups). This could be in the form of extra time with teacher aides, adult tutors, or time to do buddy reading or tape-assisted reading.

Modifications to better support the long-term progress of Mäori and Pasifika students

The most frequently suggested modification to Reading Recovery or its implementation, which could better support Mäori or Pasifika students' long-term progress, was to place more emphasis on involving parents and the community (12 groups). Suggestions included inviting parents in to observe a lesson, visiting them in the home, giving parents more training so they could help their child with reading at home, providing translators for parents with low levels of English, and visiting marae or talking about literacy with iwi groups.

Some noted that Pasifika parents could be uncomfortable at school due to their own past educational experiences, or their lack of English. More funding was required to build better relationships with these parents, and to employ translators to communicate with them.

The second most frequently suggested modification was to develop a more diverse range of texts which reflected familiar experiences for students from a wider range of backgrounds (11 groups). Other suggestions for how Reading Recovery could be modified to better support Mäori or Pasifika students' long-term progress included:

- providing resourcing for the long-term monitoring of ex-Reading Recovery students so struggling students could be identified and given immediate support (9 groups);
- increasing the staffing allocation provided by the Ministry of Education for schools with high Mäori and Pasifika rolls (5 groups);
- increasing the emphasis placed on oral language enrichment, either before (7 groups), or during, Reading Recovery (4 groups);
- broadening the recommended age for entering Reading Recovery to allow time for developing the language skills of some students before Reading Recovery, or to cater for transient students (5 groups);
- increasing the number of lessons offered to students when necessary (5 groups); and
- increasing the number of Mäori and Pasifika Reading Recovery teachers (4 groups), or Reading Recovery tutors who are fluent in te reo Mäori (3 groups).

Other modifications to Reading Recovery or its implementation to better support Mäori and Pasifika students, mentioned in a couple of groups, included: building more knowledge of, and giving value to, students' cultures; setting up structures that would enable students in Mäori medium education to have access to Reading Recovery; increasing the amount of literacy training given to class teachers and teacher aides; increasing the support given at school to students whose parents were not able to hear them read at home; and attempting to address family environmental

issues that interfered with students' learning, for example, inappropriate diets or difficult home situations.

Summary

Like the information collected from the other participants in this project, the focus group summaries paint a clear picture of the elements of Reading Recovery which were considered effective, namely the:

- one-on-one, daily, and consistent instruction from a trained teacher;
- focus on oral language, and writing, as well as on reading;
- focus on a range of text-based and word-level strategies;
- ability to tailor the intervention to individual needs, experiences, and interests;
- focus on relationship building;
- communication between Reading Recovery and class teachers; and
- ongoing monitoring.

Focus group participants suggested that these aspects of Reading Recovery supported all students, regardless of their ethnicity, to develop self-confidence and learn to self-regulate, which enabled them to progress in the longer term. Along with the areas mentioned above, the aspects viewed as particularly effective for Māori and Pasifika students were: the involvement of students' families, the selection of texts which related to students' experiences and cultures, the ability to focus on a range of strategies as well as key areas of concern such as oral language skills, and the provision of a safe place for students who were not comfortable asking questions in a busy classroom.

Although the focus group participants commented on the effectiveness of Reading Recovery, like the survey respondents, many also considered that some students missed out, and that improvements could be made to enhance the effectiveness of the intervention. A lack of access for some students was seen to be mostly due to funding constraints and therefore low implementation rates. Increases in the numbers of ESOL students and those needing support with oral language along with absenteeism, transience, and a lack of home support all impacted on the effective delivery and success of Reading Recovery, as did interruptions from other school activities, a lack of release teachers, and a lack of valuing of Reading Recovery by school staff.

Focus group participants provided a range of suggestions to overcome inequities in access and implementation consistent with those suggested by the other parties in this research. Some of the key modifications suggested were:

- increasing funding to improve implementation and to provide more resourcing of the support structures surrounding Reading Recovery;
- increasing funding to provide a more consistent approach to supporting students as they made the transition off Reading Recovery, especially those who required further support;

- improving the quality of Year 1 literacy instruction to address ESOL or oral language needs prior to Reading Recovery, and finding ways to address students' oral language needs during Reading Recovery;
- broadening the recommended age of entry into Reading Recovery so that students who missed out through transience, or because they were receiving other interventions, could access Reading Recovery; and
- increasing the fit between Reading Recovery and the whole-school literacy programme by increasing the understanding and support of Reading Recovery by school managers and other teachers.

Along with the modifications suggested above a few suggestions were offered about how to improve support for Mäori or Pasifika students. These were:

- finding ways to increase the involvement of families in Reading Recovery and increase the profile of school-like literacy activities in the home;
- increasing the number of texts available relating to a range of cultural groups and life experiences;
- finding ways to increase the profile of students' cultures in Reading Recovery and at school in general; and
- increasing the number of Mäori and Pasifika teachers and their ability to deliver Reading Recovery in their own languages.

Many modifications were concerned with the processes that support Reading Recovery rather than the strategies used as part of the intervention. This indicates a need for those involved in Reading Recovery to place more emphasis on the context of Reading Recovery as it is situated in each school. Finding better ways to relate to students' family and community members, and ways to address absenteeism were commonly suggested modifications that could enhance the effectiveness of Reading Recovery. These concerns require school-wide policies and programmes to ensure alignment with recent initiatives in these areas. Likewise, the concerns expressed about ESOL students, those with low oral language levels, and a lack of support for students as they make the transition off Reading Recovery are best addressed by placing Reading Recovery within a co-ordinated school literacy programme which emphasises quality literacy instruction prior to Reading Recovery, and follow-up after Reading Recovery.

8. Themes from the effective Reading Recovery schools

Introduction

This chapter describes the features of eight schools with high Mäori or Pasifika enrolment recommended by tutors for their effective implementation of Reading Recovery. It examines the school characteristics that staff perceived to contribute to the effective implementation of Reading Recovery. It also describes modifications to the Reading Recovery model or its implementation that staff considered would further support the performance of students.

Features of the effective Reading Recovery schools

As outlined in the methodology section of this report, the eight effective Reading Recovery schools represented a range of school types including rural and urban, state and state-integrated, small to large roll size, schools ranging from decile 1–4, and schools of differing percentages of Mäori, Pasifika, and Päkehä/European students. Two schools had a Mäori total immersion unit with the remaining students receiving bilingual education. At one of these schools approximately half the students were part of the total immersion syndicate. One school had two bilingual units: one Pasifika unit and one Mäori.

Five of the schools had been offering Reading Recovery for more than 20 years, one for eight years, and one for four. One school, which had offered Reading Recovery for eight years during the 1980s, had chosen to implement Reading Recovery again in 2003.

The number of practising Reading Recovery teachers at each school varied from one to four, according to school size. At five schools there was at least one teacher without classroom responsibilities employed solely to deliver Reading Recovery and oversee other specialist interventions. At five schools there was at least one practising Reading Recovery teacher who also had a class of their own from which they were released to deliver Reading Recovery. At three schools one of the Reading Recovery teachers was in their training year, and in all of these schools was at least one other fully trained practising Reading Recovery teacher. At one school one of the practising Reading Recovery teachers also serviced a number of other schools. All schools had at least one Reading Recovery teacher who was a full-time member of staff.

In addition to practising Reading Recovery teachers, five of the schools had staff trained in Reading Recovery who no longer delivered the intervention. The number of these ex-Reading Recovery teachers at each school ranged from one to six. At all five schools at least one member of the senior management team had been trained in Reading Recovery.

Principles of implementation common to the effective Reading Recovery schools

Many of the school characteristics the national trainers and tutors identified as contributing to the successful implementation of Reading Recovery were common to the effective Reading Recovery schools. These included:

- a school-wide commitment to Reading Recovery;
- the integration of Reading Recovery into an overall literacy plan;
- a commitment to literacy acceleration in the first year of school;
- high implementation of Reading Recovery relative to need;
- skilled Reading Recovery teachers;
- strong lines of communication between Reading Recovery teachers and class teachers;
- consistent expectations and use of strategies by Reading Recovery teachers and class teachers;
- a commitment to involving parents;
- high expectations of student attendance and a commitment to Reading Recovery lesson continuity;
- ongoing monitoring of discontinued Reading Recovery students; and
- interventions for students in Year 3 and beyond needing additional literacy support.

Each of these characteristics are described below.

School-wide commitment to Reading Recovery

In the effective Reading Recovery schools staff saw Reading Recovery as part of their school identity, and there was a sense of overall staff ownership of Reading Recovery. The assistant principal at School 6 described the school as having a "Reading Recovery philosophy overall". The principal of School 7 described Reading Recovery as "very much part of the whole parcel".

Teachers saw the support of the senior management team as one of the main reasons Reading Recovery operated effectively in their schools. They described their school managers as strong advocates of Reading Recovery and described how their leadership resulted in school-wide understanding and support of the intervention. Many of these senior managers had trained and worked as Reading Recovery teachers themselves.

The effectiveness of Reading Recovery was also attributed to the fact that staff at *all* levels of the school recognised the value of Reading Recovery. School staff described how Reading Recovery

was not just seen as an intervention that assisted teachers of junior classes, but of all teachers. By targeting early those students exhibiting lower literacy performance, it was seen to have a preventative function, reducing the occurrence of literacy difficulties further up the school.

> Teachers feel secure that at the beginning levels of school, the issues are being dealt with. (Deputy principal, School 3)

One of the reasons for school-wide understanding of the value of Reading Recovery was that at over half of the schools, teachers who had previously trained in Reading Recovery were working across a range of class levels, with at least one in the middle or senior levels. Another reason for this school-wide understanding was Reading Recovery teachers' communication with all staff about the benefits of Reading Recovery.

Integration of Reading Recovery into an overall literacy plan

Common to the effective Reading Recovery schools was a school-wide focus on literacy and a planned approach to literacy instruction and intervention. Reading Recovery did not operate in isolation but was integrated into a broader literacy plan resulting in continuity in the strategies used in Reading Recovery.

School 6, for example, had what they described as a "five pronged plan for success" which ensured a consistent school-wide approach to literacy instruction. This included an on-site kindergarten that fed into the school and an associated parent centre staffed by a trained Reading Recovery teacher, First Chance training for Year 1 teachers, and two days of literacy training for all staff in each set of holidays. Class literacy instruction was supported with additional programmes set up by the ICT teacher who had been trained in Reading Recovery.

Staff at School 7 also commented on the effectiveness of a planned approach to literacy instruction and intervention.

> We have the complete package with First Chance, Reading Recovery, and Third Chance.[44] (Reading Recovery teacher, School 7)

Some staff described how a holistic approach was more effective than their previous more piecemeal approaches.

> Reading Recovery is part of a whole literacy programme at our school…We sat down and looked at the whole package. We used to have little programmes here and there. Now we have a more holistic approach…We look at things in a whole-school context…We're all working to the same end… If we're talking about the juniors, we're all there together. If we're talking about the seniors we're all there together. We track those children all the way through school. (Reading Recovery teacher, School 5)

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[44] Third Chance is a literacy intervention designed to accelerate the achievement of students who do not meet the discontinuing criteria of Reading Recovery. Further information about Third Chance can be found in Phillips and Smith (1997).

The effective Reading Recovery schools had cultures in which cross-class, school-wide literacy information sharing occurred and the Reading Recovery teachers had input into this information sharing.

> We have school-wide staff meetings. The literacy PD is school-wide. You can follow the kids as they go through… If we suggest something it will be actioned. All the staff are involved in decision making. (Teacher of Year 2 students, School 1)

> She [the Reading Recovery teacher] is not sitting in her little corner. She has a very big part in what is happening here. She always attends everything. (Teacher of Year 2 students, School 2)

Commitment to literacy acceleration in the first year at school

Many of the effective Reading Recovery schools had high numbers of children entering school with low levels of literacy performance, and in particular, oral language. Achievement records at School 5, for example, indicated that half of their children had entered school with the oral language level of a 3-year-old.

The successful implementation of Reading Recovery in these schools, despite the entry levels of their children was attributed to the proactive, early targeting of literacy instruction to student need in the first year of school. This had resulted in fewer children needing Reading Recovery by the age of 6, and an increase in the entry levels of those who did.

> 'We'll wait until they're on Reading Recovery – Reading Recovery will fix them,' is an attitude some teachers can have. But we've realised it's a whole package and you need to start early on. (Reading Recovery teacher, School 5)

The strategies used at the effective Reading Recovery schools to accelerate the progress of their students in Year 1 are discussed below.

Experienced Year 1 teachers with expertise in literacy instruction

The skills and experience of Year 1 teachers was one of the factors contributing to the successful implementation of Reading Recovery.

> Our teachers down that [junior] end are really sound, experienced teachers. As far as I'm concerned if a child is not going to make progress with them, then they won't with anyone. (Reading Recovery teacher, School 3)

Situating expertise in Year 1 classes had been achieved in differing ways. At some schools experienced teachers had positions teaching Year 1 students as a result of school management employment decisions. At other schools this was achieved through providing training to teachers of Year 1 classes. Three schools, for example, had provided First Chance training for teachers of Year 1 students.

Keeping the student-teacher ratio low for literacy instruction

All schools had a commitment to ensuring low student-teacher ratios for literacy instruction. This was achieved by keeping junior class sizes small. Some schools supported teachers to work intensively with small groups of children through the use of teacher aide support. For example at Schools 6 and 7 teacher aides worked alongside teachers in the classroom to enable teachers to work more intensively with small groups of children on literacy instruction. School 5 provided all Year 1 children with an intensive 3-week block of daily, one-to-one writing instruction with a trained teacher.

Providing literacy interventions for Year 1 students at risk of falling behind

The schools also had in place interventions for individuals or small groups requiring extra support in Year 1. Common to a number of schools was a commitment to ensuring that interventions were delivered by trained teachers. At School 5, for example, a trained teacher was funded to run an intensive instructional reading programme with groups of 2–5 children aged 5½ to 6 needing extra literacy support. At both Schools 3 and 8 the deputy principals used their non-contact time to withdraw small groups of children for reading and writing interventions tailored to identified needs.

At other schools interventions were delivered by trained teacher aides. School 6, for example, had teacher aides who were trained to provide daily, small group instruction for ESOL students in Year 1. School 1 had developed a literacy intervention for Year 1 children, also delivered by trained teacher aides, focusing on alphabet recognition, sound knowledge, and basic sight words.

Interventions that involved withdrawing small groups from the classroom for intensive literacy instruction also had the desired effect of further reducing class sizes during that time, thereby providing opportunities for the class teacher to provide intensive literacy instruction to smaller groups.

Providing literacy activities in early childhood settings

Four schools took a pre-emptive strike at the literacy performance of the children in their communities by offering literacy-based education to preschoolers and their parents. At three schools these programmes were established by teachers trained in Reading Recovery and at one school it was run by a teacher aide trained in First Chance. At two schools these programmes were offered to children at the local kōhanga, along with other preschoolers in the community. The purpose of these programmes was to support the transition to school and to offer the children and their parents a range of literacy-related experiences. Activities included stories, poetry, music, drama, games, and shared activities. In some cases, these activities were shared with the New Entrant classes. The programme at one school also focused on concepts about print, writing names, and the alphabet, and each child was also given individual time with a teacher aide trained in Talk to Learn. The programme at another school was run at the school library where preschoolers and their parents borrowed books bought specifically for this purpose to encourage

shared reading at home. All four programmes offered literacy-related information to parents and teachers modelled school-like literacy practices for parents to observe.

The impact of attempts to accelerate literacy performance of children

Staff found the early acceleration of students' literacy performance had a positive impact on the implementation of Reading Recovery. By the age of 6 fewer children were considered to need Reading Recovery and those children who did entered at higher levels, meaning that they could be discontinued at higher levels than students in previous years. For example, as a result of implementing First Chance, the average 6-Year Net text level of students at School 8 rose from 1 to 11. This meant the students were entering Reading Recovery with text levels as high as 8 when in the past they typically entered Reading Recovery with text levels of between 1 and 5. As a result children could be discontinued at Level 17 as opposed to the class average of 9–16.

> That [school-developed literacy intervention] has made a huge difference to the children coming in to Reading Recovery. You notice it when they come in to Reading Recovery. Their item knowledge is much better. (Reading Recovery teacher, School 1)

> First Chance has been wonderful. Our levels have lifted both last year and this year with First Chance. It runs parallel, the concepts and ideas, with Reading Recovery… It's absolutely critical that children get that best practice in the first year…What the children come to Reading Recovery with has lifted since we did First Chance. (Reading Recovery teacher, School 2)

> [As a result of the preschool literacy-based programme] our kids are more keen to read. Books seem more familiar to them. They have a desire to read. They have a better sense that there's a text and it's giving them a message. (Reading Recovery teacher, School 5)

High implementation relative to need

The effective Reading Recovery schools had high levels of implementation relative to need. In most of these schools the principal and Reading Recovery teachers considered that all their children who needed Reading Recovery had access to it. Two factors contributed to this. One was the focused literacy instruction and interventions offered in Year 1. Consequently, fewer children needed Reading Recovery, meaning that places were available for those who had not made progress in a strong literacy environment. The other reason for schools' high implementation was their commitment to supplementing the staffing allocation they received from the MOE. Additional funding was gained through the board of trustees and the schools' fundraising efforts. In all but one case, the school contribution to funding Reading Recovery was greater than the staffing allocation provided by the MOE. In three of these cases the school contribution was two to three times, and in one school it was over five times that of the MOE.

> In the past when we had less funding we had slippage [in the age students entered Reading Recovery]. Because of the waiting list children were getting older and older. We got an increase in funding from the BOT. (Reading Recovery teacher, School 8)

> Because of the amount our board puts in we can pick children up close to their 6th birthday. So they haven't developed bad habits or low self-esteem. Hugely, hugely important is the amount of money our board puts in and the support we get from them. We have 10 kids on Reading Recovery. Some schools only have one or two. [The Reading Recovery teacher] has it as a full-time job so it means she can do it really well. (Teacher of Year 2 students, School 2)

Principals emphasised that their commitment to Reading Recovery was a matter of priorities and often at the expense of other things.

> We don't have fabulous buildings. That [Reading Recovery] is our commitment for funding. (Principal, School 1)

Coping with unexpected influxes of students needing Reading Recovery

Although staff at most schools considered they were able to provide Reading Recovery places to all who needed them, many identified a particular year in which they had been unable to do so. This was because of an unexpected influx of children with low literacy levels, sometimes compounded by the arrival of an unexpected number of children from other schools who also needed Reading Recovery.

One of the strategies developed in response to this experience was to provide for more places than the school expected to need. Time was therefore available to cope with unexpected arrivals. If it was not needed for this purpose it was available for the Reading Recovery teachers to monitor and follow-up on ex-Reading Recovery students, to support teachers with class literacy needs, or to oversee other literacy interventions in the school.

> Last year we had 0.7 funded. We didn't initially need it but we had five [children new to the school] arrive and they all needed Reading Recovery. They arrived at 6 years [of age] so we ended up using the full 0.7. We have put in 0.7 again next year. [So you over-budget?] Yes. It does seem to be a pattern that we have children arriving at 6 years of age] that are needing Reading Recovery, like these two little boys that have just arrived…We deal with it by providing flexibility in our funding for the year. So if I'm not needed for as much Reading Recovery [as we have budgeted], I'm used in other programmes. (Reading Recovery teacher, School 2)

Skilled Reading Recovery teachers

Most staff reported that the effective implementation of Reading Recovery at their school was due to the expertise of the Reading Recovery teacher, and the regard with which other teachers held them.

> We have a qualified, experienced [Reading Recovery] teacher. (Principal, School 1)

> Everybody respects the work that [the Reading Recovery teacher] does. We listen, take advice, and act on it. (Deputy principal, School 2)

Principals emphasised that it was important when selecting staff to train in Reading Recovery to choose experienced teachers, skilled in literacy instruction and with strong communication and interpersonal skills.

> [They need to be] a high quality teacher in the first place with junior class experience, self-motivated, organised, have a passion for working with low progress children… (Acting principal, School 6)

> They have to be a very open person as far as communicating is concerned. That's the first thing. You have to be a real people person… (Principal, School 2)

Communication between Reading Recovery and class teachers of Reading Recovery students

Team approach to decisions about children to go on Reading Recovery

Communication between Reading Recovery teachers and other staff occurred right from the decision-making process about which children would receive Reading Recovery. Staff at the effective Reading Recovery schools described how this was a team process with the input of a range of staff including the Reading Recovery teacher, the class teacher, and a member of the senior management team. This process was seen as important because it ensured that the decisions about Reading Recovery places were well informed ones, that staff involved all had a sense of ownership of the decisions, and that the Reading Recovery teacher had the support of these other staff and was not carrying this responsibility alone.

Sharing observations of students' literacy performance and assessment information

Both Reading Recovery teachers and class teachers of Reading Recovery students reported a high frequency of informal conversations with each other about the progress of Reading Recovery students using phrases such as "all the time", "every day or two", or "daily". Teachers described the way in which talk about children's literacy performance permeated their social, as well as professional gatherings and created the sense of an ongoing thread of talk about these children's literacy performance that was constantly being picked up and added to.

> Chatting in the staff room… In general our junior department talks and discusses. We always talk shop in the staff room… We often talk weddings and farms and other stuff too. (Teacher of Year 2 students, School 8)

This sharing was a two-way process, with Reading Recovery teachers learning about students' behaviours in class and class teachers learning about their performance in Reading Recovery. Both Reading Recovery teachers and class teachers reported feeling well informed about student performance in class and Reading Recovery settings.

Class teachers at all schools reported receiving regular feedback from the Reading Recovery teacher on their assessment results and observations of Reading Recovery students' literacy

performance. This feedback occurred through notes, discussions, or the sharing of assessment results such as Running Records. The content of this feedback included:

- updates (usually at least weekly) on the level students were working at in Reading Recovery and recommendations on the level at which they could be working on in class;
- observations of student strengths and weaknesses to follow-up on in class teaching; and
- ideas for class activities the teacher could use with particular Reading Recovery students.

In-class support offered by the Reading Recovery teacher

At several schools Reading Recovery teachers spent time observing students working in class and teaching Reading Recovery students in their classroom either individually or as part of a group, particularly around the point lessons were discontinued. At School 8, for example, the Reading Recovery teacher supported the class teachers of Reading Recovery students by both modelling and observing reading instruction.

> [The Reading Recovery teacher] would come in and demonstrate for me. She'd take groups for reading in my class. [Sometimes] it might just be for five minutes. (Teacher of Year 2 students, School 8)

> She [the Reading Recovery teacher] pops in while I'm teaching reading. She purposefully comes to the class to collect children so she can make suggestions about how I teach reading. It's done really nicely. It's a good strategy. (Teacher of Year 2 students, School 8)

This in-class support offered by Reading Recovery teachers tended to occur mainly in schools that funded non-contact time for their Reading Recovery teachers.

Modelling of Reading Recovery lessons

Observing Reading Recovery lessons was considered by class teachers to be one of the most important ways of establishing a shared understanding with Reading Recovery teachers, and Reading Recovery teachers also considered this to be so. Although most class teachers had only ever observed one Reading Recovery lesson, and in some cases this was a long time ago, they reported this experience as having had a dramatic impact on their understanding of Reading Recovery and on their own classroom practices.

> I've observed her [the Reading Recovery teacher] and I've started using things I've seen her use in my group lessons, like the magnetic letters and the mini-whiteboard for looking at word families. It's good they get it in Reading Recovery and in the classroom. It consolidates what they're learning. It definitely helps them make links across from Reading Recovery to the classroom. (Teacher of Year 2 students, School 1)

The need for further support

We asked class teachers if there was any further support they would like from the Reading Recovery teacher while children were in Reading Recovery or at the point lessons were

discontinued. Most indicated that they were satisfied with the support provided by the Reading Recovery teacher. Some indicated they would like the Reading Recovery teacher to be given more time to observe or work with Reading Recovery students in class around the point lessons were discontinued. Others indicated that they would like more opportunities to observe the Reading Recovery teacher. Several indicated that they would themselves like to do Reading Recovery training.

> I think that all teachers should be put on Reading Recovery – it should be taught at the institutions… Knowledge should not just be vested in Reading Recovery teachers only. I have observed a Reading Recovery session and I was absolutely blown away. I thought, 'Why don't I have that information or training?' (Teacher of Year 2 students, School 6)

Communication between Reading Recovery teachers and teachers of students discontinued the previous year

We asked the teachers of Year 3 students about the support they received from the Reading Recovery teacher. This support differed by school with some teachers at some of the larger schools identifying fewer opportunities to share information with Reading Recovery teachers. There were three main areas of support teachers of students discontinued from Reading Recovery the previous year reported gaining from the Reading Recovery teacher. The first involved informing teachers of the background of discontinued students, including information about:

- their home environment;
- their current strengths and needs; and
- areas of instruction they wanted the teacher to specifically focus on.

The second involved assisting teachers in various ways to support discontinued Reading Recovery students through their classroom instruction. These included:

- providing advice on the grouping of discontinued students;
- setting up classroom programmes for discontinued students;
- providing ideas for teaching these students;
- observing lessons in the classroom; and
- providing strategies for tackling specific problems a particular child might be facing.

The third involved the ongoing monitoring of discontinued Reading Recovery students and the sharing of assessment results. Year 3 teachers commented on the specialist skills and knowledge Reading Recovery teachers brought to these assessments.

> The Running Records are really valuable. When I get [the Reading Recovery] teacher's records I compare them with mine. Sometimes she will notice things I don't. Sometimes we both notice the same thing which is affirming… Because she's a specialist there's a wealth of information there. It energises you. (Teacher of Year 3 students, School 1)

> She did some Running Records. It was very detailed. She came to chat with me about the levels they're on and reassured me I had them on the right levels. She is a good sounding board if they are having difficulties. (Teacher of Year 3 students, School 2)

Consistency in instruction between Reading Recovery and class teachers

Staff considered the implementation of Reading Recovery to be effective at their schools because of the consistency in literacy instruction and teacher expectations across Reading Recovery and class settings. In some schools this consistency was easily attained because the Reading Recovery teacher was also the classroom teacher of Reading Recovery students or because the class teacher had worked as a Reading Recovery teacher in the past. At schools not in these positions the strong lines of communication between Reading Recovery teachers and class teachers outlined above were considered to support the consistency in expectations and instruction that occurred.

Class teachers described a range of strategies for aligning their approaches to literacy instruction with that of the Reading Recovery teacher, such as purposefully using phrases, strategies, and activities in class that were also used in Reading Recovery.

> If [the Reading Recovery teacher] is working on something, I try to work on that. We try to reinforce each other in that respect. (Teacher of Year 2 students, School 2)

> I follow all the [Reading Recovery] routines and phrases. (Teacher of Year 2 students, School 4)

> I would get phrases [from the Reading Recovery teacher] to use and it does help because then you get consistency. (Teacher of Year 2 students, School 8)

Teachers also described strategies for making explicit to students the links between their activities in Reading Recovery and their activities in class. These included chatting with the child about their work in Reading Recovery, and inviting the Reading Recovery teacher to visit the child while working in class. It also included making the relationship and information sharing occurring between the class teacher and the Reading Recovery teacher visible to the child.

> We'll go in with the child with us and talk in front of him about how well he's reading. (Reading Recovery teacher, School 5)

Teachers described how student transition off Reading Recovery was supported by this creation of consistency in teacher expectations and instruction.

In most of the schools the consistency between classroom instruction and Reading Recovery was also maintained by teachers of students who had attended Reading Recovery the previous year. Most of the teachers of students discontinued the previous year considered they used approaches similar to the Reading Recovery teacher because of observing Reading Recovery lessons or because of the connections they had with the Reading Recovery teacher.

I use the strategies that the Reading Recovery teacher has recommended or that I've observed in a lesson. (Teacher of Year 3 students, School 2)

I encourage them to use the strategies they use in Reading Recovery… If they do something they've learnt in Reading Recovery I can point this out to the group. Like I might say, 'Did you see how she read it again?' It [the ex-Reading Recovery children] is another resource for me as a teacher to be pulling on as well. (Teacher of Year 3 students, School 2)

It has to be maintained and systematically exposed. If you don't it drops off… I came in and asked [the Reading Recovery teacher] how I could build on what she does. (Teacher of Year 3 students, School 1)

One teacher felt they needed further communication with their school's Reading Recovery teacher in order to ensure their instructional approaches were consistent.

The need for further support

We asked the teachers of Year 3 students what further support would help them better cater for the discontinued Reading Recovery students they taught. Many reported feeling satisfied with the amount of support they were currently getting.

A couple of teachers did not feel well enough informed about Reading Recovery, and a number of other teachers expressed curiosity in finding out more about the Reading Recovery programme and its underlying principles. One, for example, would have liked a brochure or booklet giving information about the programme and another suggested all teachers attend a workshop or meeting in which the fundamentals of Reading Recovery were explained. One teacher wanted more information about students' reading comprehension, and another wanted to understand the factors that lead students to need Reading Recovery in the first place.

I'd just like to be more aware of what's going on. I have watched a lesson but I would like to know the theoretical side. (Teacher of Year 3 students, School 6)

Another group of teachers wanted more opportunities to observe the Reading Recovery teacher.

I've observed a couple of Reading Recovery lessons. You watch them and try to implement it in the classroom. Finding the time [to observe lessons] is really difficult but I think it's so valuable. It would be good to see a few more. (Teacher of Year 3 students, School 8)

Once a term to see her work with a child in the room. Even though we're competent teachers – just to see her as a specialist working with a child… She brings so many things into it. I'm not at a skill level where I can capitalise on things the same… Like a good cook, she knows all these things intuitively. (Teacher of Year 3 students, School 1)

Like Year 2 teachers, teachers of Year 3 students also expressed the desire to do Reading Recovery training.

Commitment to involving parents

Common to the effective Reading Recovery schools was a commitment to involving parents. Reading Recovery was seen to be most effective when the parent was part of the team.

> It's got to be that triangle – you doing your job, the class teacher doing their job, and the parent doing their job. And you've all got to help each other. That's when it's most effective. (Reading Recovery teacher, School 8)

> The home interaction is vital. If they're not getting the help at home they don't make as good progress. You must get them [parents] in. (Reading Recovery teacher, School 5)

All schools considered it especially important to elicit parent support and understanding of Reading Recovery prior to their child entering the intervention. This typically involved phoning parents and/or sending a letter home to explain Reading Recovery, followed by an invitation to parents to meet with the Reading Recovery teacher at the school. At one school, interpreters were provided to support communication with parents with English as a second language. These meetings were used to share a range of information including Observation Survey results, information about Reading Recovery, and about the role of parents in supporting children at home.

Reading Recovery teachers also described strategies for raising the profile of Reading Recovery in the wider community and ensuring it was not considered a remedial programme. These included giving certificates to students when their Reading Recovery lessons ended or drawing attention to their success in school assemblies. As a result Reading Recovery was valued and places sought after by students and parents.

> In this school Reading Recovery is not seen as a special needs programme. It's seen as a privilege. Children walk around and puff up their chests and say, 'I'm in Reading Recovery.' They get special graduation certificates at the end of year prize-giving. The community is very aware that Reading Recovery is in the school and they value it. (Reading Recovery teacher, School 5)

The extent of school commitment to the ongoing involvement of parents in Reading Recovery differed across the effective schools, with some placing more importance on this than others. There were four schools that were particularly successful in engaging parent support for Reading Recovery, with all or nearly all of the parents of Reading Recovery students having observed at least one lesson. The characteristics common to these four schools are described below.

Building relationships based on respect

Common to the Reading Recovery teachers at the schools with high parent involvement was a belief in and respect for the expertise of the parents of all children in Reading Recovery.

> Sometimes people say, 'Oh the parents are not interested.' That is *not* true. They are very interested in the acknowledgement of their children. It's often other factors that keep them from school. It's just such a difficult environment. They don't always realise the wealth that

they have to contribute to their children. Once they know it, they want to be into it, and they are far more part of it. (Reading Recovery teacher, School 2)

We've got supportive parents but a lot of them are working hard and long and have big families. (Reading Recovery teacher, School 2)

The schools with very high parent involvement took an approach that began with relationship building and learning about the child's family. Reading Recovery teachers at these schools expressed interest not just in providing parents with information about their children's literacy performance at school but also in finding out about their home literacy activities.

It links me in with what's happening at home. I often say to them, 'How do you find them [in terms of their reading and writing] at home?' I'll find out about the language which is spoken at home, and about older brothers and sisters who might be able to help them at home… I make it really open door and say they can come in at any time. I tell them that I'd like them to come in and observe once their child is settled into the programme. I write a letter to invite them in to watch a lesson. That makes a huge difference. (Reading Recovery teacher, School 2)

The Reading Recovery teachers in the schools with the highest parent involvement went to considerable lengths to ensure that all parents visited the school initially to meet with the Reading Recovery teacher and again to observe a Reading Recovery lesson. They described the ways in which they would "catch" parents as they dropped off or picked up their child from school, or dropped off their child's lunch. Others reported ringing parents, sending notes home, or going to visit them in their homes. All had in common a high level of persistence in ensuring these visits occurred.

So far I've made three contacts with home. I've made two phone calls and sent a little card. Now I'm going to get the principal to call them in just so we can tell them what we're offering their child. (Reading Recovery teacher, School 2)

These Reading Recovery teachers found they could eventually encourage even their hardest to reach parents to observe their child in at least one Reading Recovery lesson. Reading Recovery teachers from two schools each reported that they had had at least one parent sit in on every lesson their child received. In one of these cases the mother concerned learnt to read alongside her child.

Reading Recovery teachers saw parent observations of Reading Recovery lessons as important because it provided them with opportunities to model and explain teacher-like practices when hearing a child read, explain Reading Recovery homework, and share a child's success with their parents. It also provided them with opportunities to build school-home partnerships that could be sustained once the child moved out of Reading Recovery.

[With some parents I've had in] it just opened the school up to them. All of a sudden they just wanted to be part of the school and what was going on. It turned them around. (Reading Recovery teacher, School 2)

> I asked [one of the parents] to come in and see a lesson. She told me about it afterwards, that [at the time] she thought, 'Do I have to?' So she came and she was just blown away by how hard her little one was working. She was just so proud. She knew it was something she wanted to be part of. Now she is a te reo tutor in our school and a permanent member of the support staff and is planning on going to training college next year. (Reading Recovery teacher, School 2)

Ongoing communication

Also common to these Reading Recovery teachers was the maintenance of ongoing contact with parents through phone calls, notes home, and informal meetings in the school grounds before or after school.

> I send little notes home about what they can do and I get notes back. They're ongoing. When I see them in the block I'll go up and have a little chat. Many of our parents are quite shy and they are not used to our programmes. (Reading Recovery teacher, School 2)

Teachers considered ongoing communication to be important in maintaining relationships with parents, for ensuring their ongoing support of their child's attendance at Reading Recovery and completion of home activities, and for providing a solid basis from which difficulties could be resolved should they arise.

Supplementing parent support

Nearly all of the schools had also developed systems for supporting children when parents were unable to assist them with their Reading Recovery homework, through the use of teacher aides, older siblings, or senior children at the school.

> Sometimes we set up a system for someone at school, like a teacher aide, to hear them if no one at home is hearing them read. Other times I'd work with an older sibling to get them to hear them read. (Deputy principal, School 3)

> I have one boy from a family with seven children and two are preschoolers. The two older children were just wonderful in helping [with his Reading Recovery homework]. They do a lot of the caring at home. (Reading Recovery teacher, School 2)

High expectations of attendance and a commitment to lesson continuity

All the Reading Recovery teachers agreed that regular attendance strongly influenced rates of progress in Reading Recovery. Common to the effective schools was high staff expectations of student attendance in Reading Recovery. Nearly all of the schools asked parents to sign a letter agreeing to support their child's regular school attendance before beginning Reading Recovery lessons.

> We say to the parents they [their children] must be here every day. Once they are on Reading Recovery their attendance is good. (Reading Recovery teacher, School 5)

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I've got these two little 6½ -year-old twins who've just arrived. We're their third school. The information that has come from their previous schools show they have a pattern of poor attendance. Now I'm just not allowing that to go on. (Reading Recovery teacher, School 2)

Some schools saw the extra time they spent liaising with parents as a preventative approach to attendance problems. Teachers noted that if regular positive communication with the parents about their child's progress was established from the start it both reduced the likelihood of attendance problems occurring, and made it easier to approach parents if they did occur. A number of staff observed that insistence on high levels of attendance in Reading Recovery "turned around" previous patterns of poor attendance in some children and that these new habits of attendance continued on, even after the children had been discontinued.

Attendance just usually does not become an issue. Once you've contacted them initially they value what you're doing with their child and attendance doesn't become an issue. (Reading Recovery teacher, School 2)

I've found children's attendance often gets better once they start on Reading Recovery so the parents do take it on board. (Reading Recovery teacher, School 3)

Reading Recovery teachers and members of the management team emphasised the need to act quickly if attendance issues arose once lessons had started by phoning or visiting parents.

We jump on it quickly. It is vital that you are there every day. (Principal, School 1)

I'd go round to see the parents at home [if there was an issue with attendance]. I'd bring them in. I have no hesitation getting on the phone or going round. But you have to have a good rapport with the parents. (Deputy principal, School 3)

Visits were sometimes done in conjunction with a member of the senior management team, the classroom teacher, truancy officers, or social workers involved, depending on who had developed the closest relationship with the parents concerned, and on the nature of the problem. Staff at one school found that spontaneous visits often resulted in the child concerned going back to school that same day.

Other strategies were also used to signal high expectations of student attendance and ensure continuity in Reading Recovery. Reading Recovery teachers at some schools reported sending books home if a child was absent from Reading Recovery. At some schools, if students were not well enough to attend school for a full day, parents were given the option of bringing their child to school just for the half-hour Reading Recovery lesson or the Reading Recovery teacher would take lessons in students' homes.

[If a child is sick] we tell the parents they can bring the child in to school just for the Reading Recovery lesson. It gives the parent the message that it [Reading Recovery] is really important. (Reading Recovery teacher, School 3)

A number of Reading Recovery teachers in schools with relatively high absenteeism described the need to take a flexible approach in the delivery of lessons when students were absent from school.

They described sometimes giving an "extra" lesson to a child present if another child was absent, and then "paying back" that lesson to the absent child when another was off school.

Continuity of Reading Recovery lessons is just as dependent on teacher availability and school factors as it is on student attendance. Staff at the effective schools described how their school management team supported the continuity of Reading Recovery lessons by prioritising Reading Recovery over other school events such as sports trips or visiting performances. Where possible such events were organised at times when Reading Recovery was not operating, and when clashes did occur the school prioritised both teacher and student availability to attend Reading Recovery.

Ongoing monitoring of discontinued Reading Recovery students

All of the schools had systems for monitoring ex-Reading Recovery students. The extent of this monitoring varied between the schools surveyed. Common to the schools with particularly strong systems for ongoing monitoring was the allocation of funding for this purpose or the use by senior managers of their non-contact time to carry out this role. Reading Recovery teachers at schools in which this monitoring time was not funded commented on the difficulties they faced in tracking discontinued Reading Recovery students and some indicated that they would like time funded for this purpose.

At some schools the results of school-wide or class monitoring systems were used to check the performance of discontinued Reading Recovery students. For example, at School 5 the results of Running Records taken at two points during the year with all children were used to graph students' chronological and reading ages. At School 3, the Reading Recovery teacher and the Deputy Principal (who was Reading Recovery-trained) shared the role of recording the results of the Running Records that class teachers took three times a year as part of their school-wide monitoring requirements.

At other schools the Reading Recovery teacher took responsibility for assessing and monitoring discontinued Reading Recovery students and the extent of this monitoring differed among schools. At School 1, the Reading Recovery teacher monitored students once a month the year they came out of Reading Recovery, once a term in their second year out, and once a year in the years following until leaving the school. At School 2 the Reading Recovery teacher did a checkpoint for all discontinued Reading Recovery students in term 4, which involved looking at their teachers' Running Records and carrying out Burt and spelling tests once a year. At School 8 the Reading Recovery teacher did a Running Record once a term with all ex-Reading Recovery students in Year 3 and twice a year with all discontinued Reading Recovery students in Year 4 and above.

Uses of monitoring data

Reading Recovery teachers used the monitoring data they collected for a range of purposes. They used students' Six-Year Net results for:

- identifying school-wide strengths and weaknesses in students' literacy performance so that extra attention could be directed to areas of need in Year 1;
- discussing the strengths and needs of Reading Recovery children with their class teachers;
- monitoring the impact and effectiveness of Reading Recovery; and
- reporting to the board of trustees.

They used the assessment results of discontinued Reading Recovery students for a range of purposes including:

- identifying any discontinued Reading Recovery students who might needed additional support;
- discussing the strengths and needs of Reading Recovery students with their class teachers;
- monitoring the long-term effectiveness of Reading Recovery; and
- reporting to the board of trustees.

The monitoring of discontinued Reading Recovery students provided a number of benefits over and above supporting the ongoing progress of discontinued Reading Recovery students and monitoring the effectiveness of the intervention. These included creating school-wide unity, ownership, and valuing of Reading Recovery, and also providing professional development opportunities for teachers of children in classes beyond Year 2.

Most Year 3 teachers we interviewed reported valuing and using the assessment results provided by the Reading Recovery teachers.

> I get the report from [the Reading Recovery teacher] and I put them in the reading group she suggests. I'm always questioning [the Reading Recovery teacher]… Without [the Reading Recovery teacher's knowledge] in the school I'd have nowhere to go. (Teacher of Year 3 students, School 1)

However Reading Recovery teachers were not always sure how much use teachers of middle- and senior-school classes made of their assessment results and feedback, and some considered that teachers of junior students made better use of this information.[45]

Interventions for students in Years 3 and beyond needing additional literacy support

The effective schools all had systems in place for supporting students not maintaining their Reading Recovery gains. In some cases these were specifically targeted at ex-Reading Recovery students. At School 3, for example, the Reading Recovery teacher and the Deputy Principal (who was Reading Recovery-trained) shared the responsibility of providing "booster lessons" to ex-Reading Recovery students in Year 3 needing additional support. In most cases schools had literacy interventions available to all students who needed additional support, whether from Reading Recovery or not.

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[45] This study focused on teachers at Years 1–3 and so does not include the views of teachers of middle and senior classes.

The impact of Reading Recovery on the literacy performance of students

Students′ performance while in Reading Recovery

Staff perceptions of the effectiveness of Reading Recovery at their particular schools in lifting the performance of the hardest to teach students was confirmed by an analysis of the national Reading Recovery data collected by the MOE.

The MOE dataset for schools in 2003 included data from seven of the eight effective Reading Recovery schools. Each school had between four and 30 students (including both discontinued and referred students) who had completed their series of Reading Recovery lessons in 2003, giving a total of 91 students. The eighth school had four students who had completed their series of lessons, and for these students we had some but not all of the data collected by the MOE. As the number of students in the eighth school was small and the data incomplete, it was decided to exclude this school from the comparison undertaken.

We compared the scores of all students who received Reading Recovery in the case study schools in 2003 with those in all other schools. We did not attempt to compare separately the scores of discontinued and referred students from the case study schools with those of discontinued and referred students nationally as there were only 11 students from the case study schools who had been referred. There were no significant differences in the proportion of referrals from the effective Reading Recovery schools than from all schools.

We compared the scores of all students who received Reading Recovery in the case study schools with those in all other schools (decile 1–10), and with those in decile 1–4 schools.

The comparisons are in terms of:

- the number of lessons;
- their initial and final scores for the Instructional Text Level Test, Burt Word Reading Test, and Clay Writing Vocabulary Test; and
- the difference between their initial and final scores for the three tests.

The means and standard deviations are presented in Table 49. From these data we can see that:

- The case study students had more lessons than other students. The difference was almost significant at the 5 percent level when compared with all other students.[46]
- The case study students *entered* Reading Recovery with lower Burt scores (the difference was significant when compared with all other students) and Clay Writing Vocabulary Test scores

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[46] This is consistent with our finding that in general students in lower decile schools tended to have more Reading Recovery lessons.

than the other students (the differences were significant when compared with all other students, and with students in similar schools).[47]

- The case study students *ended* Reading Recovery with scores that were very similar to those of all other students (a little higher in Clay Writing Vocabulary Test scores, in which they had started at the greatest disadvantage).
- In each test, the average increase in score was greatest for the case study students.
- The case study students showed a significantly greater *increase* in Burt scores, when compared with all other students, and in writing when compared with all other students and with students in similar schools.

Table 49 **Scores for discontinued and referred students from case study schools compared with discontinued and referred students from all schools and with discontinued and referred students from decile 1–4 schools**

	Case study (n=91)		Other decile 1–4 students (n=2903)			Decile 1–10 students (n=7258)		
	Mean	**sd**	**Mean**	**sd**	**p+**	**Mean**	**sd**	**p+**
Number of lessons	85.4	(31.8)	80.3	(26.2)	0.135	78.8	(26.6)	0.053
Initial Instructional Text Level Test – Level 1	3.8	(2.7)	3.8	(2.7)	0.994	4.4	(3.0)	0.025
Final Instructional Text Level Test – Level 1	16.7	(2.8)	16.3	(3.6)	0.138	16.9	(3.5)	0.523
Initial Burt Word Reading Test	7.5	(4.9)	8.3	(5.7)	0.159	9.7	(6.1)	<0.000
Final Burt Word Reading Test	25.5	(4.8)	25.0	(7.0)	0.296	25.8	(6.7)	0.633
Initial Clay Writing Vocabulary Test	14.5	(9.8)	16.7	(11.1)	0.046	18.8	(11.5)	<0.0001
Final Clay Writing Vocabulary Test	52.1	(13.5)	50.5	(16.6)	0.253	51.1	(15.9)	0.493
Improvement on Final Instructional Text Level Test – Level 1	12.9	(3.2)	12.5	(3.5)	0.181	12.5	(3.4)	0.179
Improvement on Burt Word Reading Test Score	18.0	(6.1)	16.7	(6.4)	0.052	16.1	(6.3)	0.0040
Improvement on Clay Writing Vocabulary Test Score	37.6	(12.4)	33.8	(15.2)	0.0052	32.3	(14.4)	0.0011

Predictability of students' progress on entering Reading Recovery

We asked the Reading Recovery teachers and the class teachers of Reading Recovery students whether they noticed anything common to children who made rapid progress while on Reading Recovery. Nearly all Reading Recovery teachers reported that it was difficult to predict on entry what progress students would make while on Reading Recovery. This is backed up by the MOE analysis of the national Reading Recovery data (Anand & Bennie, 2005), and by the analysis conducted as part of this study.

Some considered that children who were in Reading Recovery due to lack of preschool exposure to books were more likely to make rapid progress than those with underlying cognitive or

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[47] This is consistent with our finding that in general students from low decile schools tended to enter Reading Recovery with lower achievement scores.

perceptual difficulties. Other factors that were considered to impact on rates of progress included students' oral language levels.

> Good oral language. They don't have trouble thinking of suitable vocabulary if they have a good oral language base. They are much better with context and meaning. You can't always predict [which students will make rapid progress]. Children with support from home get more out of the programme and it's a more positive experience for them too. (Reading Recovery teacher, School 5)

Classroom teachers' observations of changes in students attending Reading Recovery

We asked the teachers of students attending Reading Recovery to describe the changes they noticed in their students once they started Reading Recovery. These included improved:

- fluency and phrasing;
- phonological processing;
- reading for meaning;
- initiative, and risk taking in attempting unknown words;
- use of a wide range of strategies when faced with unknown words;
- metacognitive skills, self-monitoring, and self-correction;
- transfer of skills between the reading and writing;
- self-esteem and confidence both when engaging in literacy activities and in social interactions;
- concentration and engagement; and
- ability to follow routines.

> Sounding out the letters, looking at chunks, reading on. They don't just sit and look at the word. They're more proactive… They have all the strategies… It goes over into writing for the Reading Recovery children… They know how to sound it [the word] out. They're better at taking initiative for problem-solving. (Teacher of Year 2 students, School 1)

> Better fluency and phrasing. They know specific things about words, like putting endings on words that other children may not know. (Teacher of Year 2 students, School 5)

> They're using *all* the strategies at the same time. They're learning how to use all the strategies together. I see the [Reading Recovery] kids in my class effectively able to do that. I have six kids in my group and three are in Reading Recovery and three are not. Three are Year 3 children who missed Reading Recovery and the other three are in Year 2 and in Reading Recovery. The Reading Recovery students consistently use the strategies and I can see their progress already. The other three are not making that progress. The whole group has been really struggling all year but the Reading Recovery students are now moving. I spent ages last term trying to move them and now they are. (Teacher of Reading Recovery students in Pasifika bilingual unit, School 1)

Maintenance of performance in Year 2

The class teachers of Reading Recovery students indicated that successfully discontinued Reading Recovery students typically maintained their progress once discontinued from Reading Recovery.

> I can't say anyone has not maintained progress. (Teacher of Year 2 students, School 8)

> I don't see them regressing. The foundation of Reading Recovery learning stays, but as a class teacher I revisit that learning. (Teacher of Year 2 students, School 1)

A number described how some students reached and stayed at a plateau in their literacy performance for a period after leaving Reading Recovery and then took off again. This was interpreted in relation to students' comprehension of text, as the reading books students were exposed to at the higher Reading Recovery levels became more complex. This was not seen as being particular to Reading Recovery students but rather an experience many children had, especially those for whom book vocabulary and content differed from their home experiences.

> …Some plateau for a while. They accelerate, plateau, then go on again. That happens also for kids who aren't on Reading Recovery. At levels 14–18 some kids need to have mileage. It's the comprehension aspect too. (Teacher of Year 2 students, School 8)

Reading Recovery teachers made similar observations. This was particularly the case for students with English as a second language.

> In the early levels the concepts [in the stories] are simple and easy for children to understand generally. As you go through the books it gets harder for some children especially children with English as a second language. I'm finding…that as they get up the levels they don't always have full understanding of the text. [Why is that?] The structure of the book and the book language. If they haven't had a lot of exposure to book reading they have difficulty. (Reading Recovery teacher, School 2)

> Comprehension is the shakiest one as a lot of the children are second language and a lot of them don't have the experience and understanding we take for granted. (Reading Recovery teacher, School 6)

Maintenance of performance in Year 3

The Reading Recovery teachers indicated that Reading Recovery students typically continued to maintain their progress in Year 3 and beyond but all acknowledged that some children did fall behind. This maintenance of progress by the majority of students was confirmed by the teachers of Year 3 students and the performance data provided by schools on the Reading Recovery children who had been discontinued approximately 10 to 15 months prior to our visit.

Teachers' observations of strengths common to discontinued Reading Recovery students

We were interested in whether the changes in students' performance while they were in Reading Recovery that their class teachers observed were still apparent in the year following their time in

Reading Recovery. We asked the teachers of Year 3 students whether they noticed any particular strengths common to their discontinued Reading Recovery students. These teachers mentioned a similar array of strengths to those itemised by class teachers of students currently attending Reading Recovery. The three most frequently mentioned strengths identified by between one-third and one-half of these teachers related to students' strategy use, metacognition, and attitudes to reading. These are described below.

Teachers considered that a distinctive feature of children who had been in Reading Recovery was their systematic use of a wide range of strategies when faced with unknown words. These included the use of syntactic, semantic, and grapho-phonic information. Teachers commented on the *range* of strategies these students had at their disposal, the embedded nature of these strategies, and the perseverance students showed in using them.

> You definitely notice the kids who come from Reading Recovery because they *retain* their skills... It becomes long-term learning. The skills are embedded and retained, and they'll use them independently. It's become knowledge. They have all the skills. All the cues are there. When they've been through Reading Recovery the strategies are there. I get the feeling that it has been covered so often that it just carries over into their class reading and independent reading... They can systematically use a range of cues. You see them doing it. (Teacher of Year 3 students, School 1)

> They tend to re-run when they've made a mistake more frequently than other children. They tend to persevere longer with a word they don't know. They will make more attempts to work out the word than other kids… They use meaning cues more than other kids. They back up their meaning cues with visual cues. (Teacher of Year 3 students, School 2)

Another distinctive feature of children who had been in Reading Recovery was their metacognitive skills. Teachers frequently commented on students' awareness of their learning processes and strategies and their ability to articulate this awareness.

> They're more *aware* of what their strategies are…They know the point of reading and *why* they're reading. (Teacher of Year 3 students, School 3)

> They're more aware of the strategies they use than the kids who just do it automatically. They can talk about them. They'll use the language, like [they'll say] 'I read on', or 'I sounded out'. (Teacher of Year 3 students, School 8)

> What I notice when I talk with Reading Recovery children about their reading is that they grasp what I'm saying really quickly. They're used to talking about their reading. (Teacher of Year 3 students, School 8)

Teachers referred to the attitudes towards reading of their ex-Reading Recovery students and these included confidence, enthusiasm, and perseverance.

> They come out wanting to read. They enjoy reading. They are keen readers after they come out of Reading Recovery. They are confident readers. For them reading is now quite exciting. (Teacher of Year 3 students, School 1)

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Teachers' observations of difficulties common to discontinued Reading Recovery students

Teachers observed fewer difficulties than strengths common to discontinued Reading Recovery students and these were more idiosyncratic to particular teachers than the strengths observed. Two Reading Recovery teachers observed each of the following: difficulties with motivation or concentration, difficulties working in larger groups, and weaker writing than reading skills. One teacher observed difficulties with each of the following: blends, word endings, and for ESOL children, texts with high rates of new vocabulary.

Like the Year 2 teachers, teachers of Year 3 students commented on the difficulty some children faced in the area of comprehension. As with the Year 2 teachers, they observed this was just as much a difficulty faced by children who had not attended Reading Recovery and occurred as texts became more complex.

> Their reading fluency is fine but a lot of time you can't move them up to the next level as they don't understand what they are reading – that's not just Reading Recovery children but all children. (Teacher of Year 3 students, School 6)

Maintenance of progress in the longer term

Although we did not ask the effective schools to provide us with evidence of the performance of discontinued Reading Recovery students in Year 4 and beyond, several schools had collected and analysed this information. Staff from these schools reported that the gains made by their Reading Recovery children were generally maintained throughout their time at the school.

> We have data to prove the difference it makes over time. (Principal, School 1)

> Our research shows children who do Reading Recovery continue to read with their peers throughout their primary schooling… Our whole-school data show that we are doing really well. It's been easy to see that Reading Recovery has been really effective. (Principal, School 8)

Staff considered that gains made in Reading Recovery were maintained because of the strong literacy instruction they received in the years following Reading Recovery. For example, the Reading Recovery teacher and the principal considered the fact that their school had a policy of providing all students up to Year 8 with daily instructional reading explained why children discontinued from Reading Recovery maintained their gains. Staff at other schools referred to the skills of their middle- and senior-school staff.

> Good follow-up teaching. That is why I stay at this school. I am not just an isolated person teaching reading well at this school. (Reading Recovery teacher, School 8)

> [Students in] Years 2–5 all have Reading Recovery-trained teachers and talented, experienced literacy teachers. (Teacher of Year 2 students, School 4)

Reading Recovery teachers at several schools reported that they had adopted the practice of discontinuing children at levels higher rather than at the class average and believed that this contributed to the maintenance of progress of Reading Recovery students at their schools.

Students not maintaining gains made in Reading Recovery

Most Reading Recovery teachers indicated that they had observed the occasional student who had not maintained their progress in the longer term. We asked class teachers and Reading Recovery teachers whether they were aware of anything common to these students. Several did not consider these students to have anything in common, while some referred to home circumstances such as family instability, absenteeism, or mobility.

> I wonder how that [mobility] impacts on their ability to maintain gains… We have had a couple of children boomerang back and for them their transience had impacted on the maintenance of those gains. (Reading Recovery teacher, School 8)

Others observed that poor decisions about discontinuing Reading Recovery lessons and poor follow-up teaching could prevent the maintenance of Reading Recovery gains.

One teacher considered that children with visual/cognitive difficulties sometimes had more difficulty maintaining their gains than those who needed Reading Recovery due to lack of exposure to books. Another referred back to the delays experienced by some children when their oral language, vocabulary, and prior experience made the comprehension of school texts difficult.

The impact of Reading Recovery on school-wide approaches to literacy

We asked the Reading Recovery teachers about their involvement in school literacy decisions over and above those directly related to Reading Recovery, and about their opportunities to offer literacy professional development to other staff members. Most Reading Recovery teachers felt their expertise was being well used and few identified ways in which their schools could make further use of their expertise other than providing more time for teachers to observe them taking Reading Recovery lessons.

Reading Recovery teachers offered professional development to other staff members in a number of ways. These included:

- taking syndicate meetings on Running Records;
- identifying and feeding back school-wide strengths and weaknesses identified in the Six-Year Net results;
- having student teachers, first year teachers, individual staff members, and in one case, the whole staff, observe Reading Recovery lessons; and
- providing literacy advice to New Entrant teachers or teachers further up the school.

Most described their input as informal and ongoing. They described these opportunities as occurring incidentally as part of their other roles in the general life of the school such as attending literacy team, syndicate, or staff meetings. Several had responsibilities for other literacy interventions offered throughout the school and described how their Reading Recovery expertise informed the delivery of these other interventions.

Other staff also commented on school use of the Reading Recovery teacher's expertise.

> [the Reading Recovery teacher] is a lead person on the literacy team. So it's holistic. Syndicates use her expertise in Reading Recovery even in the upper levels of the school. (Principal, School 1)

> [The Reading Recovery teacher] is good at coming back from Continuing Contact and in-service and keeping us up-to-date with what's going on. She says things like, 'This is what has been suggested for Reading Recovery children but you could do this in your classes too…?' It might be the way we help a child when they're writing a story. It's little technical things. It might be the way we work with the alphabet. (Deputy principal, School 2)

> We had a meeting with the literacy leader yesterday about developing professional development and [the Reading Recovery teacher] has been the main one feeding into that… [The Reading Recovery teacher] and the literacy leader talked about how teachers were waiting for students to reach certain levels before teaching certain things. [The Reading Recovery teacher] said, from her Reading Recovery experience you don't need to go through those stages. The teachers were finding they were moving much faster through the levels as a result of [the Reading Recovery teacher's] advice. (Principal, School 8)

The senior managers we interviewed considered that having Reading Recovery at their schools had influenced both the school-wide approach to literacy instruction and the practices individual teachers used in their classrooms. In particular several staff observed that the evidence-based nature of Reading Recovery had helped the staff as a whole take a more rigorous approach to assessing and responding to students' performance.

> It makes us more rigorous and much more focused, and I think it enables us to focus on the real issues – not on best guesses. People who come out of Reading Recovery [training] are able to see the detail as well as the big picture. They have an almost academic approach. (Principal, School 8)

> It heightens the awareness of everybody of literacy learning. It encourages us to look at *individuals*. We try to look at *every* child and what we can do about it. (Reading Recovery teacher, School 5)

All but one of the class teachers we interviewed considered that having Reading Recovery in their school had changed their approaches to literacy instruction. Consistent with the views of staff in management positions, teachers described how having Reading Recovery in the school had influenced their use of assessment data.

> It's changed my attitude to assessment. I would only be doing Running Records when the data was called for but now I'm trying to assess them every week. (Teacher of Year 3 students, School 7)

Some teachers considered that as a result of Reading Recovery they were more aware of reading and writing strategies, and focused more explicitly on the use of these strategies with all the students in their classes.

> It has made me aware of what I need to do to support not only the Reading Recovery students but it's given me some strategies to use to support my reading programme [in general] and change it to better cater for children's needs. I think assessment is important. (Teacher of Year 3 students, School 7)

> It has made me more aware of how involved the reading process is and how it links to the writing and how you have to constantly be a model in the way you read stories and the fluency of your phrasing. How you have to show and model how to use the strategies. (Teacher of Year 2 students, School 3)

> Understanding the importance of the structure of language and phonological processing. The way written models of language are different from oral models. (Teacher of Year 3 students, School 1)

The effectiveness of the Reading Recovery model

As well as considering the characteristics of the case study schools which contributed to the effective implementation of Reading Recovery, we were also interested in staff views of the features of the Reading Recovery model that they considered made it an effective intervention for the students at their schools. Staff identified the same features identified by Reading Recovery teachers and principals in the surveys. Staff valued the fact the Reading Recovery was a proven programme based on research and that teachers received intensive initial training and ongoing professional development.

> What is key is that we're specialist teachers. (Reading Recovery teacher, School 8)

> Continuing Contact keeps you focused and learning new things. (Reading Recovery teacher, School 8)

Teachers also valued the fact the Reading Recovery was linked to the class programme, and to First Chance.

> It's run along the same lines as the classroom programme. It's designed to support the class programme. (Reading Recovery teacher, School 2)

> It's a refined programme from the classroom, which helps the transfer of skills. You can do all these other things and they're not related to the classroom, and these kinds of kids have a great deal of difficulty with transfer. (Reading Recovery teacher, School 2)

> There is a really good link between the First Chance programme and Reading Recovery. (Principal, School 7)

Teachers valued the way in which it developed students' metacognitive skills and enabled students to use strategies independently.

They're learning strategies that will sustain them for later on. When they have to do it on their own, they have the strategies. They can make the links. (Teacher of Year 2 students, School 3)

Others commented on the links between reading and writing.

It covers reading and writing. The reciprocal gains from that are important. (Reading Recovery teacher, School 8)

I believe he [Reading Recovery student] learnt a lot from his writing back to his reading, because he can sound out those blends, endings, and medial vowels. (Teacher of Year 2 students, School 3)

Staff frequently referred to the one-on-one nature of Reading Recovery. They considered this made it an effective intervention because:

• students had no distractions;
• students were more likely to take risks as they did not experience the shame of making mistakes in front of peers;
• teachers could cater for individual needs; and
• teachers could build close relationships with students.

Other features of the model teachers considered effective were:

• the age targeted by Reading Recovery;
• the length of sessions; and
• the daily nature of Reading Recovery and consistent routines.

Catching them young, at 6. (Teacher of Year 2 students, School 1)

Because it's every day, it's really effective. It keeps it in their memory. Even after the weekend they lose some things… It's especially important at the beginning that they don't miss a day. (Reading Recovery teacher, School 3)

Teaching of phonological processing and reading for meaning

We asked the Reading Recovery teachers about the place of phonological processing and reading for meaning in Reading Recovery. All indicated that both these components were part of Reading Recovery and that the weighting placed on these components of reading depended on the needs of the individual.

You alter the balance to suit the child. (Reading Recovery teacher, School 1)

Some children will latch onto one cue or have difficulty with one cue. If they're not using one, you'll concentrate on that. (Reading Recovery teacher, School 5)

My children all have different needs when they come in. A lot of it depends on what they come in with. (Reading Recovery teacher, School 2)

Reading Recovery teachers referred to the professional judgement needed to determine and respond adequately to students' individual combination of needs and emphasised the importance of their specialist training in enabling them to do this effectively.

> Within the structure we can individualise it. We are not following a set path. The ability to do that comes back to your training. (Reading Recovery teacher, School 8)

One Reading Recovery teacher considered that in the context of her school there needed to be slightly more emphasis on phonological processing, and others commented on the comprehension needs of their students.

> We need to add a bit more phonological processing. I think teachers need more training in phonological processing. (Reading Recovery teacher, School 8)

> Comprehension is the shakiest one as a lot of the children are second language and a lot of them don't have the experience and understanding we take for granted. (Reading Recovery teacher, School 6)

Effectiveness of Reading Recovery compared with other interventions

We asked the staff in senior management positions about the reasons they chose to continue to offer Reading Recovery, and their views on its effectiveness compared with other literacy interventions. The main reason senior managers gave for choosing to continue offering Reading Recovery was the impact it had on student performance.

> We get such good results. (Principal, School 2)

> It's been easy to see it's been really effective… We use other programmes as well. They're less expensive but not as effective. (Principal, School 8)

We asked the senior management members about how effective they saw Reading Recovery compared with the other interventions they offered. Most said they could not make a comparison as the interventions fulfilled different purposes.

> It's not a matter of either, or. With First Chance I'm weeding out children doing okay so that it leaves only the hardest to teach with Reading Recovery. (Deputy principal, School 6)

> They have different purposes so it's hard to compare… (Deputy principal, School 2)

Some said they considered Reading Recovery more effective.

> In terms of effectiveness for kids Reading Recovery is the most effective definitely. [How do you know that?] We monitor ex-Reading Recovery kids. We see that they slot in with their peers and succeed through school. (Principal, School 8)

> Reading Recovery is specialist and focused. It [the school-developed literacy intervention] isn't as effective as Reading Recovery. (Deputy principal, School 2)

We asked the senior management whether they had ever considered replacing Reading Recovery with another intervention. Nearly all indicated they had not and the most common response was words to the effect of, "What would you replace it with?"

> We sat down and did a PMI [analysis of the pluses and minuses] on our funding [of Reading Recovery] – the whole staff. Everybody was in full support of Reading Recovery. [Why was that?] The ongoing, self-extending system. It's not a step – It's a springboard. What *do* you replace it with? What other programme does that? Gives you a set of skills that carry you forward, that you can always draw on? We had a group who missed out [on Reading Recovery]. We surrounded them with other interventions. They just haven't made the same gains. (Principal, School 1)

> No. It's doing a good job for us. I'm not aware of other approaches that match it at all… It covers all of the literacy areas. The other programmes target specific things but Reading Recovery is more global. It covers writing and oral language as well… All of literacy is seen as a whole. Nothing is isolated. (Principal, School 8)

> No – never. What would you replace it with? (Deputy principal, School 2)

> It's the ambulance at the top of the cliff. There's nothing else quite like it. (Principal, School 5)

Effectiveness of Reading Recovery for Mäori and Pasifika students

We asked school staff how effective they considered the Reading Recovery intervention for Mäori and Pasifika students. This question was interpreted in two ways. One group of teachers interpreted this as a question about the effectiveness of the intervention for Mäori compared with New Zealand/European children. Some said they were unable to make this comparison because all their children were Mäori or Pasifika, but they could say it worked effectively for their children. Others considered Reading Recovery was effective for Mäori and Pasifika children for the same reasons it was effective for all children.

> I think Reading Recovery is Reading Recovery no matter who the child is. It's the same for all of them. (Reading Recovery teacher, School 6)

Another group of teachers interpreted this question as asking about the effectiveness of Reading Recovery for Mäori and Pasifika students as compared with *other* literacy interventions. These teachers identified a variety of features that made Reading Recovery an intervention particularly suited to Mäori students or to Pasifika students and these are described below.

Relationship building

Many staff considered Reading Recovery an effective intervention for Mäori and Pasifika students because the one-on-one allowed for a degree of relationship building, not possible with a small group.

> All our students are Māori so all I can say is it works for our students. I think it's the one-on-one, especially for our children. They like a nice relationship. (Principal, School 5)

> Having the time to establish relationships with these children. They like to talk to you. That can feed into the lesson writing time. That interpersonal relationship is really important or else they're not going to thrive. (Reading Recovery teacher, School 5)

Staff also considered one-on-one to be important because there was no "shame" in front of other children if mistakes were made. Teachers observed that students were more prepared to ask questions and take risks in one-on-one situations. One teacher considered they also felt more comfortable to talk about their strengths and achievements.

> When they're Māori children they behave differently. They're humble in saying what they're good at. In Reading Recovery, because of the [one-to-one] structure, they're not afraid to say, 'I can'. (Reading Recovery teacher, School 4)

> Some Samoan children feel uncomfortable to ask questions in class. It's easier to ask questions in Reading Recovery. (Teacher of Year 2 students, Pasifika bilingual unit, School 1)

Catering for diversity

Reading Recovery was considered an effective intervention for Māori and Pasifika children because of the capacity for teachers to cater for and celebrate diversity. This was due to the flexible, open-ended, one-to-one nature of Reading Recovery, which enabled teachers to tailor literacy instruction to the prior experiences and needs of the individual. In particular teachers commented on the capacity within Reading Recovery:

- to learn about the student's interests and out-of-school experiences in the time scheduled for "Roaming Around the Known";
- to choose texts to link in with the student's prior experiences;
- for students to write stories based on their prior experiences;
- to negotiate the meanings of book content that the student might not have experienced before, and;
- to tailor the programme to individual needs.

> Because it's an individualised programme, it's tailored to the child so it fits. Roaming Around the Known lets us find out about the children so we can choose suitable texts, and they write stories about their own experiences, so it's perfect. (Reading Recovery teacher, School 3)

> The Samoan style of reading is to read the words. A lot read the words, sound out the words, but don't understand what they're reading. You have to scaffold them through. Reading Recovery helps them understand what they read. It's the talking about the story. It's getting them not to read just word by word like in the Samoan style. They're used to parrot reading. They memorise bible verse for White Sunday but they don't understand what they're reading. (Teacher of Year 2 students, Pasifika bilingual unit, School 1)

Supporting the development of oral language in conjunction with reading and writing

Teachers saw Reading Recovery as a particularly effective intervention for children still learning English language structures and those with the need to extend their vocabulary. This was because the intervention provided ample opportunity for one-to-one conversations enabling teachers to model and students to practise using correct language structures in meaningful contexts. They described how one-to-one teaching enabled teachers to effectively negotiate the meanings of unfamiliar vocabulary and book language on an individualised basis.

> It's good for ESOL children as it has so many aspects that help children with language, for example, one-to-one talking about stories… In fact I think it could be more effective due to the *language* – half an hour every day! (Acting principal, School 6)

Suggested modifications to Reading Recovery or its implementation

We asked the school staff if they could suggest any modifications that could be made to Reading Recovery or its implementation to better support the long-term progress of students. Many expressed satisfaction with Reading Recovery and could not suggest any improvements. The modifications teachers did suggest were mainly to do with the amount of Reading Recovery staffing allocation provided by the MOE, but teachers also suggested some changes to the implementation of Reading Recovery at their particular schools, or to the Reading Recovery model.

Modifications to the MOE Reading Recovery staffing allocation

Staff at all schools made recommendations relating to the Reading Recovery staffing allocation provided by the MOE. They all indicated they could benefit from an increase in staffing allocation but the strength of feeling about the adequacy of their allocation differed between schools. The Reading Recovery teacher at School 1, felt "appalled" by the staffing allocation they received from the MOE.

> We're putting in 0.85. The MOE is putting in 0.2 and we're still missing heaps of kids [who need Reading Recovery]… One day a week does not meet the needs of a school like [ours].

Staff at other schools reported being able to fund the additional Reading Recovery places they needed, but acknowledged that not all schools were in this position.

> We will find that funding but a lot of schools can't afford to do that, and unfortunately kids miss out. (Deputy principal, School 2)

As well as commenting on the amount of staffing allocation provided by the MOE, staff commented on its distribution. Staff at several schools expressed strong opinions about the unfairness of the distribution of staffing allocation in relation to need. These staff wanted to see the staffing allocation provided to schools to better reflect the variation in school need.

> I think they need to fund the children most in need. We have some children who are at red level and can't get on [to Reading Recovery] and then I hear of other schools where children get on to Reading Recovery at level 12, or even at level 14. And that hurts. That hurts for our kids [who miss out]. (Teacher of Year 2 students, School 5)

> The need is greater here. It is ridiculous that we get the same funding as other schools. (Reading Recovery teacher, School 1)

Staff with this concern emphasised that while they wanted greater recognition of schools with high need in the MOE staffing allocation, they did not want this to be at the expense of less needy schools, and acknowledged that there was a need for Reading Recovery in all schools.

Other staff commented on the need for greater flexibility in the distribution of the MOE Reading Recovery staffing allocation to cope with unexpected influxes.

> About three years ago we had a lot of children arrive that we did not know were coming and we did not have the [Reading Recovery] places for them. I found out you can apply for extra Reading Recovery funding but we didn't get it. Those children missed out. (Reading Recovery teacher, School 2)

> You can't always predict how many places you'll need. There isn't flexibility for changing the funding. It's based on the results of the year before. It would be good if schools could anticipate their needs nearer the time…We are training another teacher this year from our experiences of not having enough places last year. (Reading Recovery teacher, School 3)

The Deputy Principal at School 2 suggested the development of an emergency staffing allocation provision that could be accessed from the MOE at short notice when school need for Reading Recovery places exceeded expectation.

Staff reported needing non-contact Reading Recovery time provided for a range of purposes including: observing current and discontinued Reading Recovery students in class, supporting teachers in their class instruction of Reading Recovery students, ongoing monitoring of discontinued students, providing booster lessons for discontinued students needing additional support, collecting students from class, and paperwork. MOE funding for the time and vehicle costs of travel was also considered necessary especially by staff at schools in more remote areas.

> They [teachers in training] need time to travel in to [nearest city]. We have to pay the travel costs that people in [nearest city] don't. It's blatantly unfair. (Principal, School 8)

Modifications to school implementation of Reading Recovery

Staff also suggested modifications they would like to see to the implementation of Reading Recovery at their particular schools. Over half of the Reading Recovery teachers and several class teachers reported wanting to increase parent involvement in Reading Recovery through improved home-school liaison, increasing parent observation of Reading Recovery lessons, or through offering parent-tutoring on how to support their child's progress in Reading Recovery at home.

Other suggested modifications included:

- increasing the communication between Reading Recovery teachers and class teachers, particularly teachers of Year 3 students and older;
- placing more emphasis on comprehension when decisions about discontinuing Reading Recovery lessons were made; and
- improving post-Reading Recovery monitoring systems and follow-up of children at risk of falling behind.

Modifications to the Reading Recovery model

Few staff had any suggestions on how the Reading Recovery model might be modified to better support the long-term progress of students. Staff at several schools reported the need at times to be flexible in the interpretation of Reading Recovery recommendations. While they considered the recommendations to be useful overall there were times when they did not strictly follow them. Several staff reported that they sometimes offered Reading Recovery to students over the recommended age of entry, kept students in Reading Recovery longer than the recommended 20 weeks, and discontinued students at slightly higher levels than the class average.

Contextual modifications

Other modifications staff suggested related to the broader context in which Reading Recovery operated. The most frequently mentioned here was that more or all teachers be trained in Reading Recovery.

Other suggested modifications included:

- the development of a programme for older students who missed out on Reading Recovery;
- MOE support for schools to develop coherent, school-wide literacy plans that included Reading Recovery; and
- support in addressing low oral language and literacy performance in early childhood education.

Suggested modifications to better support Mäori and Pasifika students

We asked school staff if they could suggest any modifications that could be made to Reading Recovery or its implementation to better support the long-term progress of Mäori or Pasifika students. Many teachers expressed satisfaction with the effectiveness of Reading Recovery for their Mäori and Pasifika students and did not consider any changes needed to be made. Others identified a number of factors.

Teachers frequently referred to the socioeconomic situations of many of the Mäori and Pasifika students in their schools, and saw any differentials in progress by ethnicity as being primarily due to socioeconomic disparity. These staff described the impact that adequate food, sleep, home stability, and regular attendance at school had on any student's school performance.

> Our data suggests there is more transience in our Mäori population. [It's] a huge issue for Reading Recovery. (Reading Recovery teacher, School 8)

School staff considered Reading Recovery would be more effective for Mäori and Pasifika students if there was better liaison with parents. A couple of Reading Recovery teachers commented on the need to increase their own cultural awareness and knowledge to improve their effectiveness. Several staff observed the need for greater availability of reading books with topics reflecting the diverse range of experiences of Mäori and Pasifika children. Some teachers commented on the need to continue to address the relatively low literacy levels students arrived at school with through providing additional support in the first year at school, particularly for those children needing to accelerate their oral language skills.

Students receiving total immersion education

The question of the effectiveness of Reading Recovery for Mäori children elicited some interesting responses about the lack of availability of Reading Recovery and the lack of training available for their teachers in Mäori medium education. School 4 had a large total immersion syndicate in which approximately half of the student population belonged. The total immersion syndicate leader and the Reading Recovery teacher at School 4 thought it was unfair that total immersion children missed out on Reading Recovery. This was especially given that the MOE staffing allocation was based on the literacy levels of all 6-year-olds in the school, and not just those in English medium classes.

> Our kids [total immersion syndicate students] don't access it at all and yet their numbers are counted to get the funding. (Total immersion syndicate leader)

The experiences of staff at School 5 suggest that the lack of availability of Reading Recovery to total immersion students may in some cases result in parents shifting their children out of total immersion so that their children could gain access to Reading Recovery. The Reading Recovery teacher at School 5 indicated that their school had experienced children transfer from total immersion units at other local schools in order to reap the benefits of Reading Recovery when parents became concerned about their ability to read in English.

> We quite often have kids come to our school from other total immersion schools who couldn't read and have then gone onto Reading Recovery. In two cases parents made the shift so they could go on Reading Recovery. (Reading Recovery teacher, School 5)

The principal and Reading Recovery teacher identified a number of structural obstacles to training teachers in the total immersion unit in te reo Mäori. These included the fact that teachers would have to train in English, and in their training year, would have to work with children from the English medium part of the school. The principal also noted that they did not have the personnel needed to release a total immersion teacher for training.

The total immersion syndicate leader, who had trained in Reading Recovery, and the Reading Recovery teacher, who spoke fluent Mäori, both had the skills to teach Reading Recovery in te

reo Mäori but observed that the lack of structural support prevented them doing so. This included the lack of graded Mäori readers matched to the colour wheel, and the lack of a Reading Recovery tutor fluent in te reo Mäori to observe their work and help with decisions about discontinuing lessons.

> You know how we've got [tutor] to train us in English to do Reading Recovery? I think there is *such* a need for them to have a Mäori co-ordinator as well. Because basically half the school [the total immersion syndicate] is missing out [on Reading Recovery]… I mean I could do it [take Reading Recovery in Mäori] but who's going to come and discontinue them, and all that? [So you don't have the infrastructure to support it?] No…They're just trying their hardest to co-ordinate a colour wheel so it corresponds with the mainstream ones…We don't have the graded texts. There's no one to teach the principles of Reading Recovery in te reo. If a te reo teacher is going to go and learn how to do it, they don't want the delivery to be in English, they want it to be in te reo… There's nothing out there to support it in Mäori at the moment… It would be neat for those staff [in the total immersion syndicate] to be trained in it too. (Reading Recovery teacher, School 4)

The leader of the total immersion syndicate at School 4 described how the Reading Recovery training she received when part of the mainstream syndicate had contributed to her ability to teach literacy in te reo Mäori. The total immersion syndicate leader and the principal saw the benefit of other total immersion teachers receiving Reading Recovery training, both in terms of their own professional development, and in terms of providing a knowledge base that could be shared by other teachers in the syndicate. The principal noted however, that teaching in total immersion is "a huge job anyway" and that in her view, supporting the general literacy instruction of class teachers in total immersion took priority over making Reading Recovery in Mäori available.

The principal, who was also trained in Reading Recovery, and spoke te reo Mäori, was not sure of the benefits of offering Reading Recovery training in Mäori because it was designed for the English language which has many more sounds than te reo Mäori. This observation was supported by the total immersion syndicate leader who found that children tended to learn to read in Mäori relatively quickly because of the phonologically transparent nature of the language, and the smaller number of sounds to learn.

> Mäori is a phonetic language. Once they know the sounds they can read. (Total immersion syndicate leader)

The problems, as she saw them, lay not so much in reading the words, but in comprehending text. She found the limitations of her students' vocabulary often impacted on their understanding of what they read.

Summary

Many of the effective Reading Recovery schools reported high numbers of students entering school with relatively low levels of literacy performance in general and oral language in

particular. They had experienced to varying degrees, issues with student attendance, low parent involvement in school events, and a mobile student community. In spite of these issues, Reading Recovery operated effectively in these schools. Common to these schools was a number of characteristics and strategies that explain their effective implementation of Reading Recovery.

The effective schools had a school-wide commitment to Reading Recovery. Reading Recovery was not just seen as an intervention for the junior school but something that benefited all teachers. This school-wide ownership of Reading Recovery was achieved in a number of ways. All the schools had at least one member of the senior management team who was a strong advocate for Reading Recovery, and many had Reading Recovery-trained staff spread through different levels of the school. Also common to these schools was a culture of sharing literacy information either formally or informally across all class levels.

The effective Reading Recovery schools had taken a proactive approach to accelerating the literacy performance of students during their first year of school. This was done in a number of ways including:

- placing experienced and skilled teachers with strong literacy instruction in Year 1 classes;
- providing professional development, such as First Chance training, to teachers of Year 1 students;
- keeping teacher-student ratios low in Year 1 classes;
- providing supplementary literacy instruction to all Year 1 students by funding trained teachers or teacher aides to work with individuals or groups;
- providing literacy interventions for Year 1 students at risk of falling behind in their literacy performance; and
- providing literacy-based, preschool programmes and literacy information to the parents of preschool children in the local community.

Reading Recovery teachers observed that as a result of these strategies fewer children needed Reading Recovery and those who did entered Reading Recovery at higher levels than previously meaning that they could also be discontinued at higher levels. This was seen to increase the likelihood of them maintaining progress in the long term.

Nearly all of the effective Reading Recovery schools had high implementation relative to need. Staff at all but one considered that all children who needed Reading Recovery had access to it. This was partly made possible by the strategies described above, which reduced the potential number of children needing Reading Recovery by the age of 6. It was also the result of schools supplementing the staffing allocation received from the MOE. In many of the schools this contribution was considerably more than that provided by the MOE. This was often at the cost of other school needs. A number of schools had adopted the strategy of budgeting for more Reading Recovery places than they anticipated needing as a way of creating a buffer to cope with unexpected arrivals of children needing Reading Recovery from other schools. This demonstrated the responsibility they took for mobile students.

Common to the effective schools was frequent communication between the Reading Recovery teachers and the class teachers of Reading Recovery students. Teachers of Reading Recovery students at all schools described being regularly, often daily, updated on the progress of Reading Recovery students through conversations, notes, and assessment records. This communication was most often informal and described in terms of an ongoing conversation that was picked up in a range of contexts. Staff at the effective schools commented on the consistency between the Reading Recovery teachers' and the class teachers' expectations and use of strategies. In some schools this consistency was guaranteed because the Reading Recovery teacher was also the class teacher of Reading Recovery students. At other schools class teachers of Reading Recovery students had themselves been trained in Reading Recovery in the past. Strategies used to gain consistency at schools not in these positions included class teachers observing Reading Recovery lessons, Reading Recovery teachers observing class teachers and students working in class, and Reading Recovery teachers modelling literacy instruction in class. Although many teachers had only ever observed one Reading Recovery lesson this experience had had a considerable impact, and many indicated that they would like further opportunities to observe the Reading Recovery teacher. Because of the communication and creation of consistency between the Reading Recovery teacher and class teachers, many teachers did not consider there to be any issues when students made the transition off Reading Recovery.

Staff at the effective schools demonstrated a commitment to involving parents in Reading Recovery. Schools particularly successful in involving parents were those at which time was spent building relationships with parents of Reading Recovery students and schools at which parents were viewed as partners sharing the common goal of lifting student performance. This approach was consistent with the MOE Home-School Partnership Programme (Ministry of Education, 2003). School staff had high expectations of student attendance and systems to ensure this, and prioritised the continuity of Reading Recovery lessons over other school events.

Some schools had particularly strong systems for the ongoing monitoring of discontinued Reading Recovery students and all schools provided literacy interventions for children in Years 3 and beyond needing additional literacy support. Those schools that tracked the long-term progress of Reading Recovery students found that they typically maintained their progress through their primary school years. On the whole these children were no more likely to need additional literacy support in Years 3 and beyond than children who had not been seen as needing Reading Recovery.

The schools with particularly strong systems for building partnerships with parents, for supporting students' transition off Reading Recovery, and for the ongoing monitoring and observation of discontinued Reading Recovery students tended to be those with non-contact Reading Recovery time funded by the schools to do so.

Teachers of Years 2 and 3 students were largely in agreement about the strengths common to Reading Recovery students. They observed the wide range of strategies discontinued Reading Recovery students had at their disposal, the embedded nature of these strategies, and their

systematic and persistent use of them when faced with unknown words. Teachers also commented on the metacognitive skills of discontinued Reading Recovery students and on their ability to articulate their use of reading and writing strategies.

There was little agreement among teachers about the difficulties common to discontinued Reading Recovery students. Difficulties identified for individual students included working in a group and with concentrating, coping with blends or word endings, and difficulties for ESOL children with new vocabulary. Several teachers observed that discontinued Reading Recovery students sometimes went through a plateau period in their progress shortly after being discontinued from Reading Recovery before taking off again. Common to a number of teachers was the observation of comprehension difficulties some children, and particularly ESOL children, faced at the higher book levels when text became more complex, and required greater levels of inference. Teachers observed however that this was a difficulty also experienced by children who had not attended Reading Recovery and reflected a change in the reading requirements demanded by the more complex texts students were exposed to as they progressed through school.

The features of Reading Recovery that staff most valued included the fact that Reading Recovery:

- is a one-on-one intervention, delivered daily;
- involves the integration of oral language, reading, and writing;
- is strategy-based, and develops students' metacognition and independence;
- is a proven programme based on research; and
- is delivered by teachers who have had specialist training.

The one-on-one nature of Reading Recovery was considered particularly important in supporting the progress of Māori and Pasifika children because it enabled teachers to:

- build close relationships with students;
- provide a safe learning environment in which students were not at risk of feeling shamed in front of their peers;
- learn about the diversity of students' out-of-school experiences;
- cater for these experiences through text selection, and story writing topics;
- negotiate the meanings and vocabulary in texts based on experiences foreign to students; and
- model oral language structures and engage students in the use of these language structures in authentic and meaningful contexts.

The recommendations teachers made for the improvement of Reading Recovery tended to relate to the implementation of the intervention at their particular schools or on a national basis. The main school-based change suggested by teachers was to improve the communication between the Reading Recovery teacher and teachers of students who had been discontinued the previous year and to improve partnerships with parents. Recommended changes to the national implementation of Reading Recovery related primarily to the adequacy of the Reading Recovery staffing allocation provided by the MOE and included:

- increasing the MOE staffing allocation for Reading Recovery;

- ensuring variation in the distribution of the staffing allocation better reflected variation in need at different schools;
- catering for unexpected need by, for example, having a more readily available emergency staffing allocation provision for schools experiencing unanticipated influxes of 6-year-olds needing Reading Recovery;
- increasing the staffing allocation to provide non-contact time for a range of activities such as administration, collecting students from class, observing students in class, ongoing monitoring, and travel time; and
- funding the travel costs of teachers attending training, and Continuing Contact sessions.

Many staff believed that all teachers should have Reading Recovery training.

There were few suggested changes for the Reading Recovery model itself. Teachers agreed in principle with the recommendations for the implementation of Reading Recovery but observed the need at times to be flexible in the interpretation of Reading Recovery recommendations about the age of entry into, the length of time in, and the level at which to discontinue from, Reading Recovery. Reading Recovery teachers referred to instances in which they had put children on Reading Recovery at an older age than recommended. Some had kept children in the intervention for longer than 20 weeks or taken students to levels higher than the class average before discontinuing their series of lessons.

Staff also had a number of recommendations for the improvement of Reading Recovery for Mäori and Pasifika students. At the school level the main suggestion was to improve partnerships with parents. At a broader level staff suggested that addressing students' literacy performance in early childhood, providing more texts set in a wide range of Mäori and Pasifika contexts, and making Reading Recovery available in te reo Mäori may also increase the effectiveness of Reading Recovery for these students.

In the effective schools there was a symbiotic school-Reading Recovery relationship. Just as Reading Recovery operated effectively because of the characteristics and strategies of these schools, so too was the effectiveness of these schools enhanced through having Reading Recovery. These benefits to school practices did not just include those directly related to Reading Recovery outcomes but also to a number of indirect outcomes. Reading Recovery provided the impetus for a whole range of informal and formal literacy-related conversations across different levels of the school. Individual staff considered that having Reading Recovery at their school had changed aspects of their own literacy instruction and approach to assessment and principals described how the input of Reading Recovery teachers also shaped school-wide literacy decision making.

9. Discussion

School uptake of Reading Recovery

In 2003 Reading Recovery was implemented in 67 percent of all state and state-integrated primary and composite schools in New Zealand (Anand & Bennie, 2005). The survey and MOE national data show that the uptake of Reading Recovery varies by school type. Schools less likely to offer Reading Recovery were small schools, rural schools, low decile schools, and schools with high Mäori enrolment. Of all school types, small and rural schools were the least likely to offer Reading Recovery. This finding is consistent with Aitken and Greaney (2000) who concluded that Reading Recovery is differentially available to students and is essentially a model suited to larger urban schools.

The main reasons schools did not offer Reading Recovery were the cost of the intervention, the desire to offer an intervention that reached more students, and the lack of trained Reading Recovery teachers willing to teach Reading Recovery. Other reasons schools did not offer Reading Recovery included the desire to provide another intervention which was perceived to better meet particular student needs than Reading Recovery, for example some principals thought that phonics interventions, or group rather than one-to-one teaching better suited their students. Other principals thought the Reading Recovery guidelines lacked flexibility.

Staff at small and rural schools considered that in order to offer Reading Recovery they would need additional funding to cover the travel costs of Reading Recovery teachers attending training and Continuing Contact sessions and the travel costs for relievers releasing Reading Recovery teachers from their classes. They also identified the need for greater availability of relievers and increased access to Reading Recovery clusters.

Reading Recovery was unavailable to students in Mäori medium education. Staff in kura or total immersion units indicated that to offer Reading Recovery they would need training and resources in te reo Mäori. Other teachers questioned whether Reading Recovery was needed in Mäori medium education or questioned the fit between Reading Recovery and Te Aho Matua philosophies.

Other interventions provided to students in Years 1–3

The other interventions most commonly offered to students in Years 1–3 were interventions provided by teacher aides, RTLits or RTLBs, and phonics programmes. Phonics interventions were offered to the largest number of students, in some cases whole classes. These teacher aide, RTLit, RTLB, and phonics interventions were just as likely to be offered in Reading Recovery as non-Reading Recovery schools, and to similar numbers of students. On average Reading Recovery schools offered one more literacy intervention at Years 1–3 than non-Reading Recovery schools. Although incomplete, the data relating to the number of students involved in literacy interventions give some indication that the non-Reading Recovery schools may be offering literacy interventions of some kind to a greater number of students than Reading Recovery schools.

At both Reading Recovery and non-Reading Recovery schools Mäori and Pasifika students were more likely than students of other ethnicities to receive a literacy intervention (including Reading Recovery) indicating a greater need. It is likely that this greater need was related to family income and maternal education as was found in the *Competent children at 6* (Wylie & Thompson, 1998) and *Competent children at 8* (Wylie, Thompson, & Lythe, 1999) studies but we do not know if this was the case because the 2003 national Reading Recovery data do not enable analysis by these factors.

Asian, Pasifika, and students from other ethnicities tended to be offered ESOL interventions. Mäori and Pasifika students in Reading Recovery schools were more likely to be offered Reading Recovery than students of other ethnicities. Mäori students in non-Reading Recovery schools tended to be offered Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP) or parent-tutor interventions.

The interventions that staff were most likely to report better met their student needs when compared with Reading Recovery were those provided by a teacher aide or trained school staff, HPP, and phonics programmes. However, with the exception of HPP and interventions provided by trained school staff, many schools did not appear to be monitoring the effectiveness of these interventions. Some schools had dropped Reading Recovery for other interventions they considered more effective but had collected no evidence to indicate this was, in fact, the case. This finding is consistent with other research. Timperley et al. (2003) found that schools were not always collecting evidence on the effectiveness of the new programmes they adopted and Parr, Aikman, Glasswell, and Irving (2004) found that few of the schools in their study that were using ready-made literacy materials systematically gathered evidence about their effectiveness. Trainers, tutors, and Reading Recovery teachers expressed concern that while Reading Recovery had rigorous monitoring processes some other interventions being adopted by schools did not. They considered there needed to be greater accountability in terms of student outcomes for these interventions.

The need for school support in the planned use of literacy interventions

Nearly half of the non-Reading Recovery schools had stopped offering Reading Recovery within the last two years, that is, during 2002–2003. This is consistent with the finding of Anand and Bennie (2004) that there has been a slow but steady drop in the number of schools offering Reading Recovery since 1999. This drop in the number of schools offering Reading Recovery corresponds with the availability of funding for new literacy interventions through the Reading, Writing, and Mathematics Pool. This Reading, Writing, and Mathematics Pool funding was not available to be used for Reading Recovery.

One of the principles of effective Reading Recovery implementation derived from the case study schools was a planned approach to literacy instruction and the careful integration of literacy interventions into a school-wide literacy plan. Two schools described how going through this process had led them to reduce and streamline the literacy interventions offered. First Chance training was considered particularly valuable because of its consistency with Reading Recovery, and staff observed the marked impact this had had on the progress of students in Year 1 and on the effective implementation of Reading Recovery at their schools.

The survey results indicate that some Reading Recovery and non-Reading Recovery schools were offering an extremely high number of literacy interventions. This finding, along with the lack of evidence used by schools in evaluating the effectiveness of interventions, suggests that schools may need information and support in developing school-wide literacy plans in which careful consideration is given to the choice and use of literacy interventions, and their alignment with classroom literacy practices to meet identified needs. It also indicates the need for evidence of the effectiveness of these other interventions so that school use of operational grant funding on literacy interventions is informed and efficient. The importance of such school-based-coherence for student achievement is demonstrated in the work of Newmann et al. (2001). A national strategy or guidelines may be needed to further support schools in deciding on a package of literacy interventions which best work for their students.

Student access to Reading Recovery

Although Mäori and Pasifika students were over-represented in Reading Recovery, they were also over-represented in the categories of students most likely to miss out. Three main groups of students lacked access to Reading Recovery: students in schools that did not offer Reading Recovery, students in schools with low implementation relative to need, and students in Mäori medium education.

Staff at two-thirds of the Reading Recovery schools indicated that some students at their school who needed Reading Recovery did not have access to it. The main reason for this was not enough places being provided. Staff at certain types of schools where Reading Recovery was offered to 20 percent or less of their 6-year-olds were more likely to report that higher numbers of students missed out. This was particularly the case for large, urban, and contributing schools. Although

respondents from decile 1 and 2 schools reported an average implementation rate of over 20 percent, they also reported larger numbers of students missing out. These findings support the views of survey, focus group, and interview respondents on the need to increase the MOE Reading Recovery staffing allocation provided to schools of high need, relative to that provided to other schools.

Another reason for students missing out on Reading Recovery was the unexpected arrival of students from other schools who needed Reading Recovery places. This is more likely to occur in low decile schools due to the greater likelihood of mobility in their communities (Wylie, 1999). A recommendation common to focus group and interview respondents was a more readily available emergency staffing allocation provision to cope with unanticipated need, along with a pool of emergency Reading Recovery teachers to pick up extra students in schools without the staffing capacity to do so.

Mäori and Pasifika students are over-represented in the types of school least likely to offer Reading Recovery, that is, small rural, or low decile schools, kura, and in schools most likely to have low implementation relative to need. A primary concern therefore is ensuring equitable access for these students.

The recommended entry criteria of Reading Recovery

Most survey respondents from Reading Recovery schools, national trainers, tutors, and case study school staff considered 6 to 6½ to be the best age to offer Reading Recovery. Those teachers who thought otherwise tended to come from decile 1–2 schools and schools with very high Mäori enrolment. They considered some students were not ready for Reading Recovery by the age of 6 due to their oral language performance, to their lack of school-like literacy experiences, or to their maturity. While there may be some accuracy in these beliefs, such views may contribute to lower expectations of these students, and may also imply that teachers are not fully utilising the existing cognitive, linguistic, and cultural resources of their students (Phillips et al. 2004). The work of McNaughton (2002) and McNaughton et al. (2000) demonstrates the way in which concepts of "readiness" may inhibit the progress of groups of students for whom teachers have low expectations by denying them access to the very resources they need to progress and so increase the risk for these students.

Reading Recovery trainers and tutors did not support the belief that there is a stage of readiness for entering Reading Recovery that ensures optimal rates of progress. They did not consider it possible to predict by entry scores or behaviours students' rates of progress in Reading Recovery. This perception was confirmed by the MOE analysis of the Reading Recovery MOE national data (Anand & Bennie, 2004, 2005) and by the analysis conducted as part of this evaluation.

Trainers, tutors, case study staff, and some survey respondents noted that an alternative solution to delaying the entry of such students into Reading Recovery was to provide literacy professional

development to Year 1 teachers, more focused literacy instruction, along with literacy or ESOL interventions in Year 1, or to provide school-like literacy activities to students in early childhood settings. Some of these suggestions are supported by the findings of Phillips et al. (2002) who found that by providing professional development to early childhood teachers and to teachers of students in their first year at school, it was possible to "pick up the pace of teaching and learning" for students in decile 1 schools. Following the intervention the distribution curve in the project schools had shifted towards the expected distribution on a range of measures and that at the age of 6 a greater number of students were performing within the expected range for their age.

Trainers and tutors considered the practices of delaying student entry into Reading Recovery, of excluding some of the lowest performing 6-year-olds in the belief that others would make quicker progress, and of not prioritising transferring students for Reading Recovery places, were the result of pressure for Reading Recovery places. This was indicative of schools with low levels of implementation relative to need or of schools unable to adequately address the literacy needs of their Year 1 students.

The effectiveness of Reading Recovery

The impact of Reading Recovery on student performance

The weight of evidence in the research literature shows Reading Recovery to be an effective intervention for the lowest performing students (Askew et al., 2003; D'Agostino & Murphy, 2004; Rhodes-Kline, 1997; Schwartz, 2005; Shanahan & Barr, 1995; Wasik & Slavin, 1993). Research findings indicate that there is little difference in Reading Recovery outcomes in relation to student characteristics such as levels of performance on entry, first language, and ethnicity (Anand & Bennie, 2004, 2005; Ashdown & Simic, 2000; Askew et al., 2003; Hobsbaum, 1995; McCormack, 1990; Smith, 1994; Yukish & Fraas, 2003).

The analysis of the 2003 national data conducted as part of this study showed that gains were made by students in Reading Recovery across all school and student characteristics, and that it was unlikely these gains were just attributable to regression to the mean or to expected classroom progress without an intervention. This indicates that Reading Recovery can be effective for different groups of students and in a range of contexts. Students entered Reading Recovery with different levels of performance. Those with the lowest initial scores tended to make the greatest gains and initial differences in performance were reduced for discontinued students by the time their series of lessons ended.

Perceptions of the effectiveness of Reading Recovery

Trainers and tutors considered one of the main reasons that Reading Recovery was an effective intervention was because of the features of the model that supported them to work as a professional community and maintain a shared set of theoretical principles and practices. Reading

Recovery teachers also held this view, emphasising the importance of Continuing Contact sessions and ongoing tutor support. The robust and replicable implementation of Reading Recovery over 20 years and across different educational settings can be explained by the "coherence" (Newmann et al., 2001) deliberately maintained by professional communities of trainers and tutors through comprehensive research-based training and ongoing professional development.

The Reading Recovery survey and interview responses indicate that principals from a wide range of school types considered Reading Recovery to be a cost-effective intervention that worked well in their schools. Principals and Reading Recovery teachers considered the main strengths of Reading Recovery when compared with other literacy interventions to be the fact that Reading Recovery:

- is delivered by teachers with specialist training who receive ongoing professional development and support;
- is designed to supplement the class programme;
- is a one-to-one intervention which can be tailored to individual needs;
- involves daily instruction;
- includes both reading and writing;
- develops students' metacognitive skills;
- uses data to inform student selection, instruction, and outcome decisions; and
- has a research base.

Most principals in schools not offering Reading Recovery indicated they would like to do so in the future if there was an increase in Reading Recovery funding or greater availability of trained Reading Recovery teachers willing to teach Reading Recovery.

The emphasis on phonological processing and reading for meaning

The national trainers and tutors described how Reading Recovery had, in response to research findings, been modified over time to incorporate a greater emphasis on phonemic awareness and phonological processing, along with other research-related refinements in the emphasis on visual perception, language structures and fluency, oral language, and writing. These modifications have been documented in the international research literature (Askew et al., 2003; Report of the North American Trainers Group, 2002) and Reading Recovery teachers both internationally and in New Zealand were found to teach letters, sounds, and words (Askew et al., 2003; Office for Standards in Education, 1993). The findings in the literature reviews and meta-analyses indicate that Reading Recovery was effective in lifting the skills of students as measured by the Observation Survey assessments, and for discontinued students by other tests of phonological processing skills (Askew et al., 2003, D'Agostino & Murphy, 2004; Shanahan & Barr, 1995).

The majority of survey respondents from schools that offered Reading Recovery considered its strengths when compared with other literacy interventions were the emphasis on both phonemic

awareness and reading for meaning. This was consistent with findings from the effective Reading Recovery schools. Nearly all teachers from these schools observed that the strength common to Reading Recovery students when compared with other students was the range of strategies they had at their disposal and their systematic employment of these strategies. Many also commented on the embedded nature of these strategies and of students' metacognitive ability to articulate their use of these strategies.

What was considered of primary importance to tutors and teachers was that the emphasis given to the use of cues in Reading Recovery was not fixed, but dependent on the needs of the individual. Effective instruction involved the skill of knowing which cue to use in any given situation and this depended on knowledge of the child and close observation. Reading Recovery teachers emphasised the importance of their specialist training in providing them with the theoretical knowledge and observational skills to be able to do this.

The importance of students having a range of strategies at their disposal is supported by the findings of Tunmer et al. (2002) who found that the ability to use letter-sound patterns and sentence context made the strongest independent contributions to variance in early reading performance, and that the development of each of these abilities seemed to influence the development of the other. The importance of interventions that offer a comprehensive model of reading as opposed to those that address only a few components of the reading process is also supported in the study of Wasik and Slavin (1993) who found that the one-to-one tutoring interventions that included in their instruction several components of reading and had comprehensive approaches to teaching reading had a greater impact than those that focused only on specific skills relating to the reading process.

The effectiveness of Reading Recovery for ensuring long-term progress

The meta-analysis of D'Agostino and Murphy (2004) and the literature review of Shanahan and Barr (1995) indicate that in the year after their Reading Recovery lessons were discontinued Reading Recovery students continued to make better progress than their similarly needy non-Reading Recovery counterparts, and that over time their progress became closer to that of the average achieving students in their class. A number of other studies suggest that Reading Recovery students may continue to maintain gains and improve their performance relative to their peers at least until Grades 4–6 (Askew et al., 2003; Rowe, 1997; Smith, 1994; Wade & Moore, 1997).

While most studies suggest that Reading Recovery has a lasting effect, D'Agostino and Murphy (2004) argued that it might be unrealistic to expect all Reading Recovery students to remain at average class achievement levels, given research findings indicating that those with chronic reading difficulties require ongoing intervention beyond one year. They questioned the extent to which Reading Recovery should be held responsible for the long-term progress of students given the changing nature of literacy instruction as students move through school. This point was also made by some of the national trainers, tutors, and Reading Recovery teachers in this current

study. They observed that the development of a self-extending system ensured students would continue to progress once discontinued from Reading Recovery, but observed that ongoing progress was also dependent on strong classroom literacy instruction and other factors beyond the scope of Reading Recovery.

This was consistent with findings from the effective Reading Recovery schools. Schools that had collected data demonstrating that their Reading Recovery students typically maintained their progress observed that this was the result not only of Reading Recovery, but of strong literacy instruction, such as daily guided reading occurring at all levels of the school.

School implementation of Reading Recovery

Nearly all Reading Recovery school survey respondents considered Reading Recovery to be operating effectively in their schools, and the ongoing communication between Reading Recovery and class teachers to be particularly strong. One area of concern related to students' transition off Reading Recovery, and national trainers and tutors also saw this as an area in which additional support was sometimes needed. Survey and focus group responses indicate that the approaches taken at the point lessons were discontinued varied considerably between schools. Some schools had systems in place for ongoing discussions between Reading Recovery teachers and classroom teachers about students' post-Reading Recovery needs, while others merely passed on assessment results and suggestions. Some schools provided time for the Reading Recovery teacher to work with students in the classroom when lessons were discontinued, or to give students booster lessons, while others were unable to do this. Reading Recovery teachers considered that students' transition would be better supported if Reading Recovery and classroom teachers were able to spend more time observing each other, and discussing student needs.

Survey responses suggest that another area for improvement was processes for supporting class teachers of discontinued students to use the data collected on these students in the years following Reading Recovery to inform their teaching. Survey and focus group respondents also identified the need for schools to better support discontinued students who needed additional help in the years following Reading Recovery. This is consistent with the findings of other studies which showed that not enough careful monitoring of Reading Recovery students was occurring on their return to the classroom (Clay & Watson, 1982; Glynn et al., 1989; McCormack, 1990). Survey and focus group respondents also considered that schools could make better school-wide use of Reading Recovery teachers' literacy expertise.

The effective Reading Recovery schools faced many of the difficulties that survey respondents gave as reasons for not offering Reading Recovery or as affecting their ability to effectively implement Reading Recovery. These included a high proportion of students entering school with low oral language performance and issues with student attendance and mobility. Yet the staff at these schools considered Reading Recovery to be an intervention well suited to their students and their school implementation of Reading Recovery to be highly effective. The national Reading

Recovery data showed that while the students at these effective schools entered Reading Recovery with significantly lower scores on the Burt Word Reading Test and the Clay Writing Vocabulary task than all other students, they were discontinued with similar scores, confirming the perceptions of staff at these schools.

Common to the effective schools were a number of characteristics and strategies, consistent with those identified as important by tutors and trainers, which appeared to contribute to the effective implementation of Reading Recovery. Many of these features are consistent with those identified by Newmann et al. (2001) as contributing to programme "coherence". They provide some principles of good practice for the effective implementation of Reading Recovery and include:

* a school-wide commitment to Reading Recovery;
* the integration of Reading Recovery into an overall literacy plan;
* a commitment to literacy acceleration in the first year of school;
* high Reading Recovery implementation relative to need;
* skilled Reading Recovery teachers;
* strong lines of communication between Reading Recovery teachers and class teachers;
* consistent expectations and use of strategies by Reading Recovery teachers and class teachers;
* a commitment to involving parents;
* high expectations of student attendance and a commitment to Reading Recovery lesson continuity;
* ongoing monitoring of discontinued Reading Recovery students; and
* interventions for students in Year 3 and beyond needing additional literacy support.

The effective Reading Recovery schools which had particularly strong systems for building partnerships with parents, supporting students' transition off Reading Recovery, and for the ongoing monitoring and class-based observation of discontinued Reading Recovery students were those that funded time specifically for these purposes.

The outcomes and ongoing progress of Reading Recovery students in the effective schools were seen as not solely dependent on Reading Recovery but also on the quality of class literacy instruction during Reading Recovery and in the years following, supported by a consistent and planned school-wide approach to literacy instruction. In their research on the sustainability of professional development in literacy, Timperley et al. (2003) found that the schools most successful in raising student achievement were those that created strong professional learning communities in which the efforts of teachers both individually and collectively were focused on improving student learning and achievement. Common to these learning communities was:

* the shared belief that all students can learn;
* the shared goal of raising student achievement;
* reflective conversations about practice and its impact on student learning;
* the deprivatisation of practice; and
* joint planning and curriculum development.

The effective Reading Recovery schools exhibited to varying degrees the characteristics identified by Timperley et al. The Reading Recovery teachers in these schools made a significant contribution to these communities. They were actively involved in ongoing professional conversations with other staff members, modelled evidence-based enquiry through their use of achievement data, and worked with teachers in their classrooms. They were observed taking Reading Recovery lessons and, in some cases, they observed and provided feedback on teachers' literacy instruction. They were also involved in school literacy initiatives and decision making beyond Reading Recovery.

However, as discussed at the beginning of this section, the survey findings suggest that in many schools there is much less communication between the Reading Recovery teacher and other school staff, especially teachers of students beyond the junior classes, and that in some schools Reading Recovery is seen as somewhat of a silo. This raises the question of roles and responsibilities. Who is responsible for ensuring that two-way sharing of literacy expertise between Reading Recovery teachers and other school staff occurs? The findings from this study suggest that while Reading Recovery teachers saw themselves as having an important role to play in sharing their expertise, they did not have the scope over and above their Reading Recovery work to take on the full responsibility for ensuring this occurred, nor the capacity to lead school change. In the effective schools staff in management positions had established processes and modelled attitudes, which supported the development of professional learning communities in which Reading Recovery teachers were valued members. Many of these school managers had themselves been Reading Recovery-trained. The findings of Timperley et al. (2003) support the need for school leaders to manage and monitor systems to support the establishment of strong professional learning communities, and to address any barriers to them.

Recommended changes to Reading Recovery

Recommended changes to Reading Recovery made by survey, interview, and focus group participants tended to relate to the implementation of Reading Recovery at their particular schools or on a national basis, rather than to the Reading Recovery model itself. The main school-based recommendations related to:

- improving the communication between the Reading Recovery teacher and teachers of students who had been discontinued the previous year; and
- improving partnerships with parents.

Recommended changes to the national implementation of Reading Recovery related primarily to the staffing allocation and funding provided by the MOE. These included:

- increasing the MOE staffing allocation for Reading Recovery;
- ensuring variation in the distribution of the staffing allocation better reflected variation in need at different schools;

- catering for unexpected need by, for example, having a more readily available emergency staffing allocation provision for schools experiencing unanticipated influxes of 6-year-olds needing Reading Recovery;
- increasing the staffing allocation to provide non-contact time for a range of activities such as administration, collecting students from class, observing students in class, ongoing monitoring, and travel time;
- funding the travel costs of teachers attending training, and Continuing Contact sessions; and
- providing more, or all, teachers with Reading Recovery training.

These recommendations suggest that the staffing allocation was not considered adequate to meet student need. However the provision of Reading Recovery places is dependent on both the MOE Reading Recovery staffing allocation and on school use of the operations grant or other discretionary funding. Schools are expected to use their operations grant to, at the least, match the hours provided by the MOE. The extent to which schools meet their need for Reading Recovery places is therefore partially dependent on school priorities for using their discretionary funding. In all but one of the effective schools the school contribution to Reading Recovery staffing was greater, in some cases considerably greater, than the staffing allocation provided by the MOE. The staff at most of these schools considered all who needed Reading Recovery had access to it. Schools also have the option of using discretionary funding to cater for unexpected arrivals of students needing Reading Recovery or to provide additional time for Reading Recovery teachers to carry out activities such as observing and monitoring discontinued students. As discussed earlier, some of the effective Reading Recovery schools had also taken these options. However, staff at these schools observed that their commitment to funding Reading Recovery staffing was at the expense of other things, highlighting the delicate juggling act schools face in the use of their discretionary funding.

The fact that most respondents recommended changes to the implementation of the Reading Recovery rather than to the features of the model or its delivery reflects participants' satisfaction with a model considered to be working effectively. However it may also indicate that some respondents took the features of the Reading Recovery model and its delivery as a given and so did not consider reflecting on the possibilities for further refinements of them. This is a potential risk of communities with high levels of "coherence" (Newmann et al., 2001). While many respondents valued the research base of Reading Recovery only a few respondents commented explicitly on the need for ongoing research and the updating of evidence. However, it is important to acknowledge that we did not directly ask a question addressing this. The trainers and tutors certainly provided insights into aspects of the delivery of Reading Recovery that might provide areas for future studies to focus on.

The effectiveness of Reading Recovery for Mäori and Pasifika students

Impact of Reading Recovery on Mäori and Pasifika students' performance

Our analysis of the 2003 national data showed that Mäori and Pasifika students were more likely than other students to be identified as needing Reading Recovery and that these students tended to enter the intervention with lower scores.

The national Reading Recovery data provide information for considering the effectiveness of Reading Recovery for Mäori and Pasifika students in three ways:

- the impact of Reading Recovery on the achievement of discontinued Mäori and Pasifika students when compared with those of other ethnicities;
- the proportion of Mäori and Pasifika students who were discontinued or referred when compared with those of other ethnicities, and
- the impact of Reading Recovery on the achievement of referred Mäori and Pasifika students when compared with those of other ethnicities.

Impact of Reading Recovery on students whose lessons were discontinued

The differences in performance of students on entering Reading Recovery was related to a range of factors including ethnicity, school decile, authority, size, the size of the population centre, and the proportion of Mäori enrolment. Many of these characteristics are associated, for example, many low decile schools have high Mäori and/or Pasifika enrolment. Students with the lowest initial scores tended to come from low decile schools and from rural or main urban schools with high Mäori enrolment.

The analysis of the 2003 national Reading Recovery data showed that Reading Recovery was effective in reducing these initial differences in literacy performance for discontinued students across the range of school and student characteristics, and that those with the lowest initial scores tended to make the greatest gains. There were, however, differences in the number of lessons discontinued students received in order to achieve these results. Discontinued students with the lowest entry scores (who tended to be Mäori and Pasifika students and students from low decile schools) tended to have the greatest number of lessons. This suggests that the practice of providing more lessons to those students with greater needs is an important one for reducing initial differences in student performance. Mäori and Pasifika students entered Reading Recovery with lower initial scores than other students and these differences were reduced by the time their series of lessons was discontinued. This equalising effect was particularly evident for Pasifika students.

Differences in student outcomes appeared to be more related to the type of school students attended than their ethnicity. The type of school students attended had a substantial influence on their literacy performance affecting their initial and final scores and the point at which they were

referred. Discontinued students from low decile schools, particularly large, urban, state schools achieved lower overall scores than their counterparts from other schools.

Proportion of Mäori and Pasifika students who were discontinued

Mäori and Pasifika students were less likely to reach the point at which their lessons were discontinued because they no longer needed additional support, than other students. This was partly related to the high representation of Mäori and Pasifika students in low decile schools: students in lower decile schools tended overall to have a lower proportion of students who had their lessons discontinued. The two main reasons students were not discontinued were because the decision was made to refer them to another intervention or because students moved schools before completing their series of Reading Recovery lessons. Student mobility, which is more likely to occur in low decile schools (Wylie, 1999), can result in students not completing their series of Reading Recovery lessons if the new school does not offer Reading Recovery. It can also occur if the new school does not follow the standard practice of prioritising the transferring student for the next available Reading Recovery place or if the next available place does not become free before the transferring student is considered too old to take it. As discussed earlier, the trainers and tutors considered that this was more likely to occur when there was a pressure for places in schools with low levels of implementation relative to need. The survey results indicate that the schools most likely to have low implementation relative to need were large urban schools and low decile schools (schools attended by a substantial number of Mäori and Pasifika students).

Impact of Reading Recovery on students who were referred

While Reading Recovery was effective in reducing initial differences in performance between Mäori and Pasifika students who were discontinued and those of other ethnicities, this did not tend to be the case for Mäori and Pasifika students who were referred, particularly for those in low decile schools.

The number of lessons received by referred students tended to decrease with decreasing decile. Students in low decile schools, and Mäori and Pasifika students, who are over-represented in these schools, received fewer lessons in fewer weeks before referral than other students. One explanation for the early referral of students from low decile schools already discussed, is that the pressures for places results in the earlier movement of students off Reading Recovery. However even within low decile schools, Mäori and Pasifika students received fewer lessons in fewer weeks before referral than students of other ethnicities who had similar achievement on entry to Reading Recovery. The findings of this study provide no explanation for the early referral of Mäori and Pasifika students when compared with other students of similar need *within* low decile schools and this is an area that warrants further investigation in order to ensure equitable outcomes for these students.

Features of Reading Recovery that make it effective for Mäori and Pasifika students

The features of Reading Recovery considered most important for supporting the progress of Mäori and Pasifika students related to the one-to-one nature of tuition because this enabled teachers to:

- build close relationships with students;
- provide a safe learning environment in which students were not at risk of feeling shamed in front of their peers;
- learn about the diversity of students' out-of-school experiences;
- cater for students' out-of-school experiences through text selection, and story writing topics;
- negotiate the meanings and vocabulary in texts based on experiences foreign to students; and
- model oral language structures and engage students in the use of these language structures in authentic and meaningful contexts.

A naive reading of practices in "collective" cultures would suggest that for Mäori and Pasifika students, a group intervention would be preferable to a one-to-one intervention. However as Hohepa, McNaughton, and Jenkins (1996) have illustrated, personalised interactions are not necessarily incompatible with a group-focused set of cultural values. In their study on patterns of language use within a köhanga reo they demonstrated the significance of both individualised and group interactions for student learning.

The amount of time set aside for working with familiar texts in Roaming around the Known has been questioned in the research literature (Tunmer & Chapman, 2003). However the findings from this study indicate that the opportunities provided for building relationships and learning about the individual student during Roaming around the Known were considered key to its effectiveness as an intervention for Mäori and Pasifika students. Also considered key was the capacity within the Reading Recovery model to learn about, and tailor instruction to, the out-of-school experiences of students. McNaughton (2002) emphasises the importance of creating such continuity across home and school settings through the modification of school as well as home activities in supporting the progress of students from diverse backgrounds.

The holistic approach to literacy instruction involving opportunities for conversation and the reading and writing of continuous text was considered to be a general strength of Reading Recovery, and may also be considered a strength of the intervention, particularly for Mäori and Pasifika students. McNaughton (2002) and Phillips et al. (2002) demonstrate the importance of keeping teaching and learning channels "wide" and having a broad and flexible approach to instruction in order to best accommodate the learning needs of students from diverse cultural backgrounds.

Suggested modifications for Mäori and Pasifika students

Our analysis of the combined sources of data from this study highlights some further areas for potential fine-tuning of both classroom and Reading Recovery instruction. The fact that Mäori and Pasifika students were more likely to be identified for Reading Recovery than other groups of students and tended to enter with lower scores suggests that "first wave" teaching may not be as effective for Mäori and Pasifika students. The findings from the case study schools suggest that Reading Recovery could be even more effective with better "first wave" programmes in place, and others such as Schwartz (2005) have also drawn this conclusion.

The earlier referral of Mäori and Pasifika students shown in the national data may be indicative of differing expectations. This finding, along with the fact that some Reading Recovery teachers believed certain students would benefit from delayed entry into Reading Recovery due to their ESOL needs, their oral language needs, or their limited exposure to school-like literacy activities, suggests that some teachers may not be fully aware of the resources their students bring with them to the school environment. The majority of teachers, most of whom had trained over four years ago, reported that the needs of Mäori and Pasifika students had not been explicitly focused on in their initial Reading Recovery training. These findings suggest that some Reading Recovery teachers may need more support to develop a wider range of strategies for identifying the cognitive, linguistic, and cultural resources of Mäori and Pasifika students. The findings of this study also suggest the need for a closer look at the Reading Recovery and classroom experiences of students who are referred and school decisions about their referral.

The findings from this study also highlight a number of other possible modifications that could be made to better support the needs of Mäori and Pasifika students in Reading Recovery such as increasing the number of Mäori and Pasifika Reading Recovery teachers, increasing the availability of texts set in a wide range of Mäori and Pasifika contexts, and strengthening home-school partnerships.

Delivery of Reading Recovery in te reo Mäori

While some respondents commented on the need for tutors fluent in te reo Mäori, and structures to support the implementation of Reading Recovery in te reo Mäori, such as levelled texts, others highlighted issues that would need careful consideration before proceeding in this direction. As the national trainers and tutors emphasised, the provision of Reading Recovery in te reo Mäori would not simply involve a translation of the Reading Recovery materials into te reo but would involve a complete reconstruction of Reading Recovery that was research-based, perhaps following a similar approach used in the reconstruction of the Observation Survey documented in Rau (1998).

Some staff working in total immersion education questioned whether in fact Reading Recovery was needed in te reo Mäori given that Mäori, unlike English, is a phonologically transparent language. These teachers commented on the relative ease with which children learnt the mechanics of reading in te reo Mäori. This was consistent with the responses to the teacher

questionnaires used in schools at which the Mäori reconstruction of the Observation Survey was trialled (Rau, McNaughton, Hohepa, & Doherty, 1998).

Some of the study participants considered offering literacy professional development to all total immersion teachers a greater priority than providing Reading Recovery in te reo Mäori, and the findings from the cases study schools demonstrate the benefits of strong "first wave" teaching.

Some participants in this study questioned the appropriateness of Reading Recovery in a Mäori medium context and emphasised the need to establish how closely the philosophy and approaches of Reading Recovery aligned with Te Aho Matua philosophies.

The question of reconstructing Reading Recovery so that it could be delivered in te reo Mäori is a complex one. The findings of this study suggest the need for an approach in investigating the reconstruction of Reading Recovery in te reo Mäori that is driven by those involved in Mäori medium education.

Conclusions

Reading Recovery is a valued and well-established literacy intervention in New Zealand schools. It is considered to be cost-effective and operating well by principals in schools offering Reading Recovery. Most principals in schools not offering Reading Recovery indicated they would like to do so in the future; the main barriers faced by these schools were the cost, in relation to other school priorities, and the availability of trained Reading Recovery teachers willing to teach Reading Recovery.

The findings of this study show that not all students have equal access to Reading Recovery. Students facing barriers to access were those in schools not offering Reading Recovery, those in schools with low implementation relative to need, and those in Mäori medium education. As Mäori and Pasifika students are highly represented in these categories, one of the main issues for these students is addressing barriers to access.

Reading Recovery has been refined over time in response to research, and the findings of this study suggest satisfaction with the model itself. Recommended changes tended to relate more to the school context in which Reading Recovery was situated and to questions of implementation. This was particularly the case in schools at which high numbers of students started school with low oral language performance and few experiences of school-like literacy activities. The effective Reading Recovery schools provide examples of how Reading Recovery can be successfully implemented in low decile schools with high Mäori and Pasifika enrolment. This occurred when there was whole-school ownership of Reading Recovery, when Reading Recovery was part of a planned and coherent school-wide literacy strategy beginning in Year 1 or in early childhood settings, when Reading Recovery teachers were actively involved in school-wide professional conversations and when there was high implementation relative to need. The strategies adopted by the effective schools were especially strong when schools provided

additional funding to give the Reading Recovery teacher non-contact time to observe and work with class teachers and Reading Recovery students in class settings, carry out ongoing monitoring, provide support when necessary to discontinued students, and build relationships with parents.

Students across all the school and student characteristics made gains while on Reading Recovery. Mäori and Pasifika students entered Reading Recovery with lower literacy performance than other students and these differences were reduced by the time their series of lessons ended. The findings of this study indicate that the effectiveness of Reading Recovery for Mäori and Pasifika students could be further enhanced by addressing barriers to access, by better meeting the needs of Mäori and Pasifika students in "first wave" instruction, and by investigating more closely the Reading Recovery and classroom experiences of students referred to other interventions and the reasons for these referrals.

The findings from this study and from the overview of the research literature also signal a number of areas for further research. These include research into the:

- costs and the effectiveness of the range and combination of literacy interventions schools are offering, to support schools in making funding decisions and forming school-wide literacy plans;
- Reading Recovery and class experiences common to those students who make rapid progress following Reading Recovery, including processes used as lessons are discontinued;
- Reading Recovery and class experiences of students who are referred to other interventions;
- decisions and practices for referring students from Reading Recovery to other literacy interventions;
- costs and effectiveness of the interventions provided to students referred from Reading Recovery; and
- benefits of reconstructing Reading Recovery in te reo Mäori for use in Mäori medium education.

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Appendix A: Principal questionnaire: Schools offering Reading Recovery

NZCER Survey

This questionnaire is part of a study, commissioned by the Ministry of Education, about Reading Recovery and its effectiveness, particularly for Mäori and Pasifika students. Please fill out this questionnaire by ticking the boxes that apply and by writing in the spaces provided. Some of the questions may need to be answered with input from the Literacy Leader at your school. Thank you.

Reading Recovery at your school

1. **What proportion of the staffing dedicated to Reading Recovery at your school is funded by the Ministry of Education?** *(please tick one)*
   1) p None
   2) p 0.01-0.09 FTTE
   3) p 0.10-0.19 FTTE
   4) p 0.20-0.29 FTTE
   5) p 0.30-0.39 FTTE
   6) p 0.40-0.49 FTTE
   7) p 0.50-0.59 FTTE
   8) p 0.60-0.69 FTTE
   9) p 0.70 or more FTTE (*please describe*)_____ FTTE

2. **What proportion of the staffing dedicated to Reading Recovery at your school is funded by your school?** *(please tick one)*
   1) p None
   2) p 0.01-0.09 FTTE
   3) p 0.10-0.19 FTTE
   4) p 0.20-0.29 FTTE
   5) p 0.30-0.39 FTTE
   6) p 0.40-0.49 FTTE
   7) p 0.50-0.59 FTTE
   8) p 0.60-0.69 FTTE
   9) p 0.70 or more FTTE *(please describe)* _____ FTTE

3. **What sources of funding do you use for Reading Recovery?** *(please tick all that apply)*
   a) p Ministry of Education staffing for Reading Recovery
   b) p School Entitlement Staffing (e.g., Junior School 1-23 staffing)
   c) p School Operational Funding
   d) p Targeted Funding for Educational Achievement (TFEA)
   e) p Special Education Grant (SEG)
   f) p Mäori Language Factor Funding
   g) p ESOL funding

h) **p** Schooling Improvement Fund

i) **p** Board of Trustees (BoT) raised funds

j) **p** School fees

k) **p** Other *(please describe)*_____

4. **In your view, how cost-effective is Reading Recovery in terms of meeting student needs?**

1) **p** Very cost-effective   2) **p** Moderately cost-effective   3) **p** Not very cost-effective   4) **p** Not sure
(please comment)

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Selecting students for Reading Recovery

5. **Do you think every student at this school, who needs Reading Recovery, has access to it?**

1) **p** Yes *(go to question 7)*

2) **p** No *(go to question 6i and 6ii)*

3) **p** Not sure *(go to question 7)*

6. **i) In 2003, approximately what number of students, who you thought needed Reading Recovery, did *not* have access to it?**

[   ] students

ii) What were the reasons these students were not able to access Reading Recovery?
(please tick all that apply)

a) **p** Not enough funding to offer Reading Recovery places to all students who needed them

b) **p** Other students were making slow progress on Reading Recovery so places weren't available

c) **p** Some students missed out because their places got offered to Reading Recovery students who transferred from other schools

d) **p** Other *(please describe)*_____

7. **i) At your school, are any literacy interventions offered to students who have completed Reading Recovery, but need further assistance?**

1) **p** Yes

2) **p** No *(go to question 8)*

3) **p** Not sure *(go to question 8)*

ii) If yes, what are the interventions?

a) **p** An intervention with a Resource Teacher of Literacy (RTLit)

b) **p** An intervention with a Resource Teacher of Learning and Behaviour (RTLB)

c) **p** An intervention with a teacher aide

d) **p** A parent-tutor or adult-tutor literacy intervention

e) **p** Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)

f) **p** Pause, Prompt, and Praise (PPP)

g) **p** Supporting At-Risk Readers (SARR)

h) **p** Third Chance

i) **p** Other *(please describe)*_____

Effectiveness of Reading Recovery

8. **What do you see as the main strengths of Reading Recovery in comparison to other literacy interventions? (please tick all that apply)**

a) **p** Not sure

Delivery

b) **p** Instruction is provided daily

c) **p** Instruction is one-on-one

d) **p** Instruction can be personalised to the needs of each student

e) **p** Reading Recovery can be provided for the length of time that suits each student

f) **p** Students can receive instruction outside the classroom

g) **p** Instruction is provided by specially trained Reading Recovery teachers

h) **p** Reading Recovery tutors provide support to Reading Recovery teachers

i) **p** Reading Recovery has a research base

j) **p** Students are taught phonological processing skills

k) **p** Students are taught to read for meaning

Resources

l) **p** Texts and other resources can be selected to match individual students' learning needs

m) **p** The literacy activities in Reading Recovery involve both reading and writing

n) **p** Students engage with both familiar texts and texts which extend them

Ongoing monitoring

o) **p** Data is used to select students for Reading Recovery

p) **p** Data is collected during Reading Recovery to enable Reading Recovery teachers to personalise their instruction to student needs

q) **p** Data is used to determine when students are ready to come off Reading Recovery

r) **p** Students can be referred to other interventions if they are not showing progress

s) **p** Data on ex-Reading Recovery students is collected

t) **p** **Other strengths?** *(please describe)*

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9. **What are the main reasons for offering Reading Recovery as a literacy intervention at your school?** *(please tick all that apply)*

a) **p** Not sure

b) **p** We get extra funding to offer Reading Recovery

c) **p** We have Reading Recovery-trained staff

d) **p** There is training and support provided

e) **p** The research shows it is effective

f) **p** From our experience Reading Recovery is effective with our students

g) **p** The monitoring of student progress *during* Reading Recovery is part of the intervention

h) **p** The monitoring of student progress *after* Reading Recovery is part of the intervention

i) **p** Other reasons *(please describe)* _____

10. **Overall, how well is Reading Recovery working at your school?**

1) **p** Very well   2) **p** Moderately well   3) **p** Not very well   4) **p** Not sure

11. **i)** **Please indicate the effectiveness of the procedures that support Reading Recovery at your school. (please circle one number for each procedure)**

Procedures for:	Very effective	Moderately effective	Not effective/ Not offered	Not sure
1) Ensuring Reading Recovery teachers have input into school literacy planning and professional development	1	2	3	4
2) Ensuring ongoing communication between Reading Recovery teachers and classroom teachers	1	2	3	4
3) Supporting Reading Recovery students as they make the transition off Reading Recovery	1	2	3	4
4) Supporting classroom teachers to use data on ex-Reading Recovery students	1	2	3	4
5) Monitoring students' progress after Reading Recovery	1	2	3	4
6) Providing support to ex-Reading Recovery students who have been identified as needing further intervention	1	2	3	4
7) Involving parents in Reading Recovery and engaging their support	1	2	3	4

ii) **If you have selected "Very effective" for any of the procedures in 11i), could you describe this procedure?**

What is the number of this procedure? *(please describe this procedure)*	1	2	3	4	5	6	7
What is the number of this procedure? p *(please describe this procedure)*	1	2	3	4	5	6	7
What is the number of this procedure? p *(please describe this procedure)*	1	2	3	4	5	6	7
What is the number of this procedure? p *(please describe this procedure)*	1	2	3	4	5	6	7
What is the number of this procedure? p *(please describe this procedure)*	1	2	3	4	5	6	7
What is the number of this procedure? p *(please describe this procedure)*	1	2	3	4	5	6	7
What is the number of this procedure? p *(please describe this procedure)*	1	2	3	4	5	6	7

12. **Are there any changes that could be made to Reading Recovery to better meet the needs of students at your school?**

1) p Yes *(please describe)*   2) p No   3) p Not sure

Effectiveness of Reading Recovery for Mäori and Pasifika students

13. **i)** **Are there any aspects of Reading Recovery that you consider to be *particularly effective* in meeting the needs of Mäori or Pasifika students?**

1) **p** Yes *(please describe)*   2) **p** No   3) **p** Not sure

ii) **Are there any changes that could be made to Reading Recovery to better meet the needs of Mäori or Pasifika students?**

1) **p** Yes *(please describe)*   2) **p** No   3) **p** Not sure

Reading Recovery Teachers at your school

14. **i)** **How many teachers at your school have been trained as Reading Recovery teachers?**

teachers

ii) **How many teachers at your school are being trained as Reading Recovery teachers this year?**

teachers

iii) Could you please fill in this table to show the ethnicity of the Reading Recovery teachers who have been trained, or who are being trained this year.

Ethnic group	How many trained/training Reading Recovery teachers are from this ethnic group? *(please place each teacher in one group only):*	How many of these teachers are full-time members of staff at your school?	How many of these teachers will see students for Reading Recovery this year?
a) NZ European	a1	a2	a3
b) Mäori	b1	b2	b3
c) Pasifika	c1	c2	c3
d) Asian	d1	d2	d3
e) Other	e1	e2	e3

The range of literacy interventions offered to Year 1 to 3 students

The following questions are about the range of literacy interventions available at your school for Year 1 to 3 students. By intervention we mean specific literacy instruction, which is designed for individual students or groups of students who have literacy difficulties, and which is in addition to the usual classroom programme, e.g., interventions such as Reading Recovery or Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP), but not general programmes such as Books in Homes.

15. Please fill in the table below to provide information about Reading Recovery, and any other literacy interventions offered at your school for Year 1 to 3 students.

Literacy interventions for Year 1 to 3 students	Offered at your school?	Year level of students this intervention is offered to? *(please tick all that apply)*	Please fill in the boxes to show how many Years 1 to 3 students are currently receiving this intervention. *(please place each student in one main ethnic group only)*					
a) Reading Recovery	1) **p** Yes	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
b) An intervention with a Resource Teacher of Literacy (RTLit)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
c) An intervention with a Resource Teacher of Learning and Behaviour (RTLB)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
d) An intervention with a teacher aide	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
e) A parent-tutor intervention (or an intervention which involves other adult tutors from the community)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
f) Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
g) Pause, Prompt, and Praise (PPP)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
h) Hauraki Early Language Intervention (HELP)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			

Literacy interventions for Year 1 to 3 students	Offered at your school?	Year level of students this intervention is offered to? *(please tick all that apply)*	Please fill in the boxes to show how many Year 1 to 3 students are currently receiving this intervention. *(please place each student in one main ethnic group only)*					
i) Talk to Learn	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
j) Third Chance	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
k) SPELD	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
l) ESOL interventions	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
m) A computer intervention such as SuccessMaker	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
n) Jolly Phonics	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
o) Other *(please name or describe)* _____ _____	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
p) Other *(please name or describe)* _____ _____	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
q) Other *(please name or describe)* _____ _____	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			

16. **Do you collect evidence on the effectiveness of any of the other literacy intervention you offer?**

1) **p**   Yes *(please fill in the table below)*
2) **p**   No *(go to question 17)*

Name or description of intervention	Type of evidence collected

17. **Are you offering other literacy interventions to students at the same time as or instead of Reading Recovery?**

1) **p**   Yes *(please fill in the table below)*
2) **p**   No *(go to question 19)*

Intervention offered to Year 1 to 2 students	Please fill in the boxes to show how many of these students are in each ethnic group. *(please place each student in one main ethnic group only)*		
a) Students currently receiving Reading Recovery and another literacy intervention at the **same time**	a) Mäori ☐ b) Pasifika ☐ c) Asian ☐		
	d) NZ European ☐ e) Other ☐		
b) Students who are currently receiving another literacy intervention **instead of Reading Recovery**	a) Mäori ☐ b) Pasifika ☐ c) Asian ☐		
	d) NZ European ☐ e) Other ☐		

18. **If you offer other literacy interventions to students at the same time as or instead of Reading Recovery, what are the reasons for this? (please tick all that apply and write in the spaces provided)**

a) **p** Not sure

b) **p** We have extra funding for these literacy interventions

c) **p** We have teachers or other personnel trained in these literacy interventions

d) **p** Other literacy interventions can be offered to students who miss out on Reading Recovery places

e) **p** Other literacy interventions target different student needs from Reading Recovery *(please describe)*

Name of intervention	The student needs targeted by this intervention

f) **p** Other reasons? *(please describe)*

19. **Does your school offer First Chance?**

1) **p** Yes   2) **p** No

Your final comments

20. **Are there any other comments you would like to make about the effectiveness of Reading Recovery, or other literacy interventions, in general or in relation to Mäori or Pasifika students in particular?**

THANK YOU VERY MUCH FOR FILLING OUT THIS QUESTIONNAIRE.
Please post it back to NZCER in the envelope provided.

Appendix B: Reading Recovery teacher questionnaire

NZCER Survey

This questionnaire is part of a study, commissioned by the Ministry of Education, about Reading Recovery and its effectiveness, particularly for Māori and Pasifika students. If you teach Reading Recovery at more than one school, please answer for the school you received this questionnaire from. Please fill out this questionnaire by ticking the boxes that apply and by writing in the spaces provided. You may need to access school records to answer some of the questions. Thank you.

1. **What do you see as the *main strengths* of Reading Recovery *in comparison* to other literacy interventions?** *(please tick all that apply)*

   a) **p** Not sure

   Delivery

   b) **p** Instruction is provided daily

   c) **p** Instruction is one-on-one

   d) **p** Instruction can be personalised to the needs of each student

   e) **p** Reading Recovery can be provided for the length of time that suits each student

   f) **p** Students can receive instruction outside the classroom

   g) **p** Instruction is provided by specially trained Reading Recovery teachers

   h) **p** Reading Recovery tutors provide support to Reading Recovery teachers

   i) **p** Reading Recovery has a research base

   j) **p** Students are taught phonological processing skills

   k) **p** Students are taught to read for meaning

   Resources

   l) **p** Texts and other resources can be selected to match individual students' learning needs

   m) **p** The literacy activities in Reading Recovery involve both reading and writing

   n) **p** Students engage with both familiar texts and texts which extend them

   Ongoing monitoring

   o) **p** Data is used to select students for Reading Recovery

   p) **p** Data is collected during Reading Recovery to enable Reading Recovery teachers to personalise their instruction to student needs

   q) **p** Data is used to determine when students are ready to come off Reading Recovery

   r) **p** Students can be referred to other interventions if they are not showing progress

   s) **p** Data on ex-Reading Recovery students is collected

t) **p** **Other strengths?** *(please describe)*

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Selecting students for Reading Recovery

2.   **i) In 2003, how many students at this school turned 6 during the year?**

```
┌──────┐
│      │   students
└──────┘
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ii) In 2003, how many of these students were offered Reading Recovery?

```
┌──────┐
│      │   students
└──────┘
```

3.   **Do you think every student at this school, who needs Reading Recovery, has access to it?**

1) **p** Yes *(go to question 5)*

2) **p** No *(go to question 4i and 4ii)*

3) **p** Not sure *(go to question 5)*

4.   **i) In 2003, approximately what number of students, who you thought needed Reading Recovery, did *not* have access to it?**

```
┌──────┐
│      │   students
└──────┘
```

ii) What were the reasons these students were not able to access Reading Recovery?
     (please tick all that apply)

a) **p** Not enough funding to offer Reading Recovery places to all students who needed them

b) **p** Other students were making slow progress on Reading Recovery so places weren't available

c) **p** Some students missed out because their places got offered to Reading Recovery students who transferred from other schools

d) **p** Other *(please describe)* _____

5.   **In your experience, is age 6–6½ the best time for students to begin Reading Recovery?**

a) **p** Yes *(please give reasons)*   b) **p** No *(please give reasons)*   c) **p** Not sure

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6.   **i) Have any of this school's lowest performing 6-year-olds ever been excluded from entry into Reading Recovery?**

1) **p** Yes

2) **p** No *(go to question 7)*

3) **p** Not sure *(go to question 7)*

ii) If yes, what were the reasons? *(please tick all that apply)*

a) **p** High absenteeism

b) **p** Behavioural problems

c) **p** ESOL

d) **p** A history of transience

e) **p** Learning delays

f) **p** Other *(please describe)* _____

7. **What happens when students, who are part-way through Reading Recovery, transfer to this school from other schools?** *(please tick all that apply)*

a) **p**   They are placed at the top of the list for the next place available

b) **p**   They are placed at the bottom of the list for the next place available

c) **p**   We compare the needs of the new student with the needs of the students on our waiting list

d) **p**   The new student is not offered Reading Recovery at this school

e) **p**   Other *(please describe)*

Reading Recovery Follow-up

8. **At this school, who are students referred to, if they are *not* successfully discontinued from Reading Recovery?** *(Please tick all that apply)*

a) **p**   No one

b) **p**   A teacher aide

c) **p**   A Resource Teacher of Literacy (RTLit)

d) **p**   A Resource Teacher of Learning and Behaviour (RTLB)

e) **p**   An educational psychologist

f) **p**   An oral language specialist

g) **p**   Other *(please describe)*

9. **i) At this school, are there any changes that could be made to better support students' successful transition off Reading Recovery?**

1) **p**   Yes

2) **p**   No (go to question 10)

3) **p**   Not sure (go to question 10)

ii) If yes, what are these changes? *(please tick all that apply)*

a) **p**   More time for the classroom teacher to observe students as they do Reading Recovery

b) **p**   More time for the Reading Recovery teacher to work in the classroom

c) **p**   More time for the Reading Recovery and classroom teachers to discuss student needs

d) **p**   More time for the Reading Recovery and classroom teachers to discuss Reading Recovery data

e) **p**   More time for Reading Recovery teachers to upskill classroom teachers

f) **p**   Training for Reading Recovery teachers about how to upskill classroom teachers in their literacy practices

g) **p**   Training for Reading Recovery teachers about how to upskill classroom teachers in the analysis of student Reading Recovery data

h) **p**   Other *(please describe)*

Of the changes you have selected in 9ii), which are the three main changes you would like? *(Please tick 3 only)*

a) **p**   b) **p**   c) **p**   d) **p**   e) **p**   f) **p**   g) **p**   h) **p**

Your views on the effectiveness of Reading Recovery

10. **Overall, how well is Reading Recovery working at this school?**

1) **p** Very well   2) **p** Moderately well   3) **p** Not very well   4) **p** Not sure

11. **i)** **Please indicate the effectiveness of the procedures that support Reading Recovery at this school.** *(please circle one number for each procedure)*

Procedures for:	Very effective	Moderately effective	Not effective/ Not offered	Not sure
1) Ensuring Reading Recovery teachers have input into school literacy planning and professional development	1	2	3	4
2) Ensuring ongoing communication between Reading Recovery teachers and classroom teachers	1	2	3	4
3) Supporting Reading Recovery students as they make the transition off Reading Recovery	1	2	3	4
4) Supporting classroom teachers to use data on ex-Reading Recovery students	1	2	3	4
5) Monitoring students' progress after Reading Recovery	1	2	3	4
6) Providing support to ex-Reading Recovery students who have been identified as needing further intervention	1	2	3	4
7) Involving parents in Reading Recovery and engaging their support	1	2	3	4

ii) **If you have selected "Very effective" for any of the procedures in 11i), could you describe this procedure?**

What is the number of this procedure? 1   2   3   4   5   6   7
Please describe this procedure.

What is the number of this procedure? 1   2   3   4   5   6   7
Please describe this procedure.

What is the number of this procedure? 1   2   3   4   5   6   7
Please describe this procedure.

What is the number of this procedure? 1   2   3   4   5   6   7
Please describe this procedure.

What is the number of this procedure? 1   2   3   4   5   6   7
Please describe this procedure.

What is the number of this procedure? 1   2   3   4   5   6   7
Please describe this procedure.

What is the number of this procedure? 1   2   3   4   5   6   7
Please describe this procedure.

12. Are there any changes that could be made to Reading Recovery to better meet the needs of students at this school?

    1) **p** Yes *(please describe)*   2) **p** No   3) **p** Not sure

    [ ]

Effectiveness of Reading Recovery for Mäori and Pasifika students

13. **i)** Are there any aspects of Reading Recovery that you consider to be *particularly effective* in meeting the needs of Mäori or Pasifika students?

    1) **p** Yes *(please describe)*   2) **p** No   3) **p** Not sure

    [ ]

ii) Are there any changes that could be made to Reading Recovery to better meet the needs of Mäori or Pasifika students?

    1) **p** Yes *(please describe)*   2) **p** No   3) **p** Not sure

    [ ]

Your Reading Recovery training

14. Were the needs of Mäori or Pasifika students specifically focused on in the Reading Recovery training you received?

    1) **p** Yes *(please describe)*   2) **p** No   3) **p** Not sure/can't remember

    [ ]

15. Could modifications be made to the training of Reading Recovery tutors and teachers to enable them to better meet the needs of Mäori or Pasifika students?

    1) **p** Yes *(please describe)*   2) **p** No   3) **p** Not sure

    [ ]

Details about yourself

16. **Including your year of Reading Recovery training, for how many years have you been working as a Reading Recovery teacher?**

1) **p** I'm training as Reading Recovery teacher in 2004
2) **p** 1-2 years
3) **p** 3-4 years
4) **p** 5-6 years
5) **p** 7-8 years
6) **p** 9-10 years
7) **p** More than 10 years

17. **Are you:**

1) **p** A full-time classroom teacher who has relief time to provide Reading Recovery at your school?

2) **p** A part-time teacher who provides Reading Recovery at this school only?

3) **p** A non-classroom teacher who provides Reading Recovery and other interventions or programmes at this school?

4) **p** A part- or full-time teacher who provides Reading Recovery at more than one school?

5) **p** Other *(please describe)* _____

18. **Please indicate the one ethnic group with which you most strongly identify.**

1) **p** NZ European   2) **p** Mäori   3) **p** Pasifika   4) **p** Asian   5) **p** Other

19. **Please indicate your gender.**

1) **p** Female   2) **p** Male

Your final comments

20. **Are there any other comments you would like to make about the effectiveness of Reading Recovery, in general or in relation to Mäori or Pasifika students in particular?**

THANK YOU VERY MUCH FOR FILLING OUT THIS QUESTIONNAIRE

Please post it back to NZCER in the envelope provided

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Appendix C: Principal questionnaire: Schools not offering Reading Recovery

NZCER Survey

This questionnaire is part of a study, commissioned by the Ministry of Education, about Reading Recovery and other literacy interventions offered to Year 1-3 students. We are particularly interested in the reasons why schools do or do not offer Reading Recovery, and the effectiveness of other literacy interventions for Māori and Pasifika students. Please fill out this questionnaire by ticking the boxes that apply and by writing in the spaces provided. Some of the questions may need to be answered with input from the Literacy Leader at your school. Thank you.

The literacy interventions provided to Year 1 to 3 students

1. **i) Has your school ever offered Reading Recovery in the past?**

   4) p Yes
   5) p No *(go to question 2)*
   6) p Not sure *(go to question 2)*

   ii) When did your school last offer Reading Recovery?

   1) p Not sure
   2) p In 2003
   3) p In 2002
   4) p In 2001
   5) p In 2000
   6) p Before 2000

2. **i) Would you like to be able to offer Reading Recovery in the future?**

   1) p Yes
   2) p No (go to question 3)
   3) p Not sure (go to question 3)

   ii) What support or conditions would you need to offer Reading Recovery?
   (please describe)

3. **What are the main reasons your school does not offer Reading Recovery?**
    (please tick all that apply and write in the spaces provided)

a) **p**   Not sure

Funding

b) **p**   The cost of Reading Recovery

c) **p**   We are not sure how to apply for Reading Recovery funding

d) **p**   We are able to get additional funding for other literacy interventions

e) **p**   Other literacy interventions can be provided to more students

Staffing and training

f) **p**   We do not have Reading Recovery-trained teachers

g) **p**   We have difficulty finding teachers to train for Reading Recovery

h) **p**   We are not able to form a Reading Recovery cluster with other schools

i) **p**   We need a distance delivery option for Reading Recovery training

j) **p**   We do not want to release Reading Recovery-trained teachers from classrooms

k) **p**   We have teachers or other personnel trained in other interventions

Student needs

l) **p**   We are not able to adapt Reading Recovery approaches as much as we would like

m) **p**   Around 6 years of age does not seem the best time to offer Reading Recovery

n) **p**   We have too many students with high needs at this school

o) **p**   We have too many transient students at this school

p) **p**   Other literacy approaches or interventions are better suited to our students' needs (please describe below)

Name or description of literacy intervention	The student needs targeted by this intervention

q) **p**   Our staffs' beliefs about literacy are different from the Reading Recovery philosophy
       (please describe below)

r) **p**   **Other reasons?** *(please describe)*

4.   Does your school offer First Chance?

1) **p** Yes   2) **p** No

The following questions are about the literacy interventions available at your school for Year 1 to 3 students. By intervention we mean specific literacy instruction, which is designed for individual students or groups of students who have literacy difficulties, and which is in addition to the usual classroom programme, e.g., interventions such as Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP), but not general programmes such as Books in Homes.

5.   Does your school offer any specific literacy interventions aimed at improving the literacy of Year 1 to 3 students who are having difficulties?

1) **p**   Yes *(please fill out the table below)*

2) **p**   No *(go to question 8)*

Literacy interventions for Year 1 to 3 students	Offered at your school?	Year level of students this intervention is offered to? *(please tick all that apply)*	Please fill in the boxes to show how many Year 1 to 3 students are currently receiving this intervention. *(please place each student in one main ethnic group only)*					
a) An intervention with a Resource Teacher of Literacy (RTLit)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
b) An intervention with a Resource Teacher of Learning and Behaviour (RTLB)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
c) An intervention with a teacher aide	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
d) A parent-tutor intervention (or an intervention which involves other adult tutors from the community)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
e) Hei Awhiawhi Tamariki ki te Panui Pukapuka (HPP)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
f) Pause, Prompt, and Praise (PPP)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2 c) **p** Year 3	a) Mäori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
g) Hauraki Early Language Intervention (HELP)	1) **p** Yes 2) **p** No	a) **p** Year 1 b) **p** Year 2	a) Mäori		b) Pasifika		c) Asian	

		c) **p** Year 3	d) NZ European		e) Other			

Literacy interventions for Year 1 to 3 students	Offered at your school?	Year level of students this intervention is offered to? *(please tick all that apply)*	Please fill in the boxes to show how many Year 1 to 3 students are currently receiving this intervention. *(please place each student in one main ethnic group only)*					
h) Talk to Learn	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
i) Third Chance	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
j) SPELD	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
k) ESOL interventions	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
l) A computer intervention such as SuccessMaker)	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
m) Jolly Phonics	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
n) Other *(please name or describe)* _____ _____	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
o) Other *(please name or describe)* _____ _____	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	a) Māori		b) Pasifika		c) Asian	
			d) NZ European		e) Other			
p) Other *(please name or describe)* _____ ___	1) p Yes 2) p No	a) p Year 1 b) p Year 2 c) p Year 3	• Māori		• Pasifika		• Asian	
			• NZ European		• Other			

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6. **Do you collect evidence on the effectiveness of any of the literacy interventions you offer?**

    1) **p**   Yes *(please fill out the table below)*
    2) **p**   No *(go to question 7)*

Name or description of intervention	Type of evidence collected

7. **Are there any aspects of the literacy interventions at your school that you consider to be particularly effective in meeting the needs of Mäori or Pasifika students?**

    1) **p** Yes *(please describe)*   2) **p** No   3) **p** Not sure

Your final comments

8. **Are there any other comments you would like to make about the effectiveness of the literacy interventions at your school, in general or in relation to Mäori or Pasifika students in particular?**

THANK YOU VERY MUCH FOR FILLING OUT THIS QUESTIONNAIRE.
Please post it back to NZCER in the envelope provide

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Appendix D: Characteristics of survey responses

Table 50 **Comparison of the characteristics of the Ministry of Education schools dataset and Reading Recovery 2003 dataset with survey sample and returns**

	2004 March Ministry of Education Statistics* (n=2045) %	2004 Survey Sample Statistics (n=428) %	2003 Reading Recovery School dataset* (n=1239) %	2004 Reading Recovery principal returns (n=195) %	2004 Reading Recovery teacher returns* (n=171) %	2004 Non-Reading Recovery principal returns* (n=81) %
Location						
Main urban	46	47	55	54**	56**	28**
Rural	38	38	28	29**	26**	63**
Minor urban	11	10	11	9	10	5
Secondary urban	6	5	7	8	9	2
Decile						
1-2	21	21	17	15	19	21
3-4	20	19	20	19	21	17
5-6	19	19	19	18	20	19
7-8	20	20	21	22	17	20
9-10	21	21	24	26	23	22
% Māori enrolment						
< 8%	25	23	24	29	25	26
8-14%	20	21	24	24	23	16
15-29%	24	24	28	26	30	19
30%+	31	32	24	21**	23**	40
% Pasifika enrolment						
< 8%	85	85	81	84	84	91
8-14%	5	6	8	7	6	4
15-29%	4	5	5	4	4	4
30%+	6	4	7	5	6	1
Size*						
1-52	20	19	9	7**	5**	42**
53-104	18	18	16	20	15	19
105-199	22	21	27	25	26	12**
200-299	15	17	20	17	20	7
300+	24	25	28	31**	33**	19
Type						
Full primary	56	54	51	52	50	62
Contributing	40	40	48	45	47	28**
Composite	4	6	2	3	3	9
Authority						
State	87	85	87	83**	84	85
State integrated	13	15	13	17	16	14

*   Percentages do not always add up to 100 due to rounding, and in some cases, a small amount of missing data.

**   Marked under- or over-representation between the survey returns and the March 2004 Ministry of Education statistics. This was calculated using a chi-square test comparing the sample population to the non-sample population.

*** Roll size divisions were calculated using staffing formulas which resulted in uneven categories.

Appendix E: Interview with Reading Recovery tutors

Trainer/Tutor code _____   Date _____

This interview is part of an NZCER study commissioned by the Ministry of Education on Reading Recovery and its effectiveness, particularly for Māori and Pasifika students. I will be asking you methods of delivery and instruction used in Reading Recovery and the implementation of Reading Recovery in schools. I will also be asking you about your views on school and student access to Reading Recovery.

This interview should take about one to one-and-a-half hours. You don't have to answer any questions you are not comfortable with. I'd like to tape this interview as a back up for the notes I'll be taking if that is alright with you?

1. a) The first question is about your background in Reading Recovery. For how long have you been working as a tutor?
    b) For how long were you working as a Reading Recovery teacher before that?

The next questions are about student access to Reading Recovery.

2. a) Do all the students who you think need Reading Recovery have access to it?
    b) (If not) Are there any particular groups of students who do not have access to it?
    c) Why do they not have access to it?
    d) Do you have any suggestions for ensuring that students such as these have access to Reading Recovery?

3. Reading Recovery is intended for the children with the lowest literacy levels by *school* rather than on a national basis. How effective do you think this practice is in ensuring those students most in need nationally, have access to Reading Recovery?

4. The Ministry of Education national data show that Reading Recovery is less likely to be offered in low-decile schools. What do you think are the reasons for this?

5. Do you have any suggestions for modifications to the implementation of Reading Recovery to ensure that those students most in need nationally have access to it?

6. Reading Recovery is intended for children as near as possible to their 6th birthday. Do you think this is the best time for children to begin Reading Recovery, and why? *(Prompt: Should Reading Recovery be offered to a wider age range?)*

The next questions are about the implementation of Reading Recovery, and the methods of delivery and instructional strategies used in Reading Recovery.

7. a) What national modifications have you seen over the last five years to the methods of delivery and instructional strategies used in Reading Recovery, and to the implementation of Reading Recovery?
    b) Why do you think these changes have occurred?

8. What are the features of Reading Recovery that you think are particularly effective in supporting the long-term progress of students? (For example, daily one-on-one instruction, length of sessions, resources)

9. How effective do you think the instructional strategies used in Reading Recovery are for the long-term progress of students? That is in terms of developing students' phonological processing skills and the ability to read for meaning?

10. What school conditions contribute to the effective implementation of Reading Recovery? Could you give specific examples?

11. What school conditions hinder the effective implementation of Reading Recovery? Could you give specific examples?

12. Could you suggest any modifications that could be made to Reading Recovery or its implementation to better support the long-term progress of students?

The next questions focus on student transition from Reading Recovery and their ongoing progress.

13. Do you find there are any issues for students as they make the transition off Reading Recovery? *(Prompt: What are these issues and which students face them?)*

14. How effective are the processes used for supporting student transition off Reading Recovery?

15. Do Reading Recovery students typically continue to need extra support in Years 3 and beyond?

16.   From your experiences are there some students who are more likely to make rapid progress with Reading Recovery, than others? Who are these students, and why are they more likely to make rapid progress?

17.   Are there some students who are more likely to *maintain* their Reading Recovery gains than others and if so, why?

      Prompt: Is this related to:
      * *the student's performance on entering Reading Recovery?*
      * *patterns of progress while in Reading Recovery?*
      * *the level of phonological processing skills they have when discontinued?*
      * *the ability to read for meaning they have when discontinued?*
      * *the quality of the class literacy programme?*
      * *their successful transition back to the classroom?*
      * *the support of parents?*
      * *any other reasons?*

18.   Are the patterns you have described the same for Mäori or Pasifika students, or are there different dynamics going on? What are these?

19.   Are there any aspects of Reading Recovery or its implementation that you consider particularly effective in supporting the progress of Mäori or Pasifika students? Could you give specific examples?

20.   Can you suggest any modifications that could be made to Reading Recovery or its implementation to better support the progress of Mäori or Pasifika students?

The next questions focus on issues of transience and attendance.

21.   Could you comment on the ways in which student attendance rates impact on the delivery of Reading Recovery, and on students' successful completion of Reading Recovery?

22.   Could you comment on the ways in which student transience impact on the delivery of Reading Recovery, and on students' successful completion of Reading Recovery?

23.   I understand that students who leave their school before completing Reading Recovery may or may not continue with it at their new school. Why do you think a child may not continue with Reading Recovery at their new school?

24. Are you aware of students leaving Reading Recovery or being dropped from it for reasons other than referral, discontinuation, or moving schools? (If yes) What are the reasons? (*Prompt: Poor attendance, behavioural problems*)

The next questions are about the training of Reading Recovery tutors and teachers.

25. What modifications have you seen in the training of Reading Recovery tutors and teachers over the last two to three years? Why were these changes made?

26. Do Reading Recovery tutors or teachers receive training about ways to upskill classroom teachers' literacy knowledge and instructional strategies, and if so, what does this involve?

27. Are the needs of Māori or Pasifika students specifically focused on in the training of Reading Recovery tutors or teachers, and if so, how?

28. Do you think training programmes need to place more focus on Māori or Pasifika students? (If yes) What would you suggest?

Concluding question.

29. Is there anything else you would like to comment on, particularly in relation to Māori and Pasifika students and Reading Recovery?

Thank you for giving your time to do this interview. Are there any questions you would like to ask me?

Appendix F: Focus group questions

NZCER has been commissioned by the Ministry of Education to carry out a study on Reading Recovery and its effectiveness, particularly for Māori and Pasifika students. The purpose of this focus group is to gather information on your views and experiences of Reading Recovery.

Thank you for giving up one of your support sessions to take part in this focus group. We really appreciate your time. The session should take about one hour. We will incorporate your viewpoints into our report but none of your names will appear in any written material produced from this study. We will send your tutor a summary of the research findings when the project is completed.

The first questions are about school and student access to Reading Recovery.

1.   Do all the students who you think need Reading Recovery have access to it? If not, are there any particular groups of children who do not have access to it, and why is that?

2.   Do you have any suggestions for modifications to the implementation of Reading Recovery to ensure that those students most in need have access to it?

The next questions are about the effectiveness of Reading Recovery.

3.   What do you see as particularly effective about Reading Recovery and its implementation in your particular schools for supporting the long-term progress of students?

    Please prompt for the following if not covered in the discussion:

    • *methods of delivery (e.g., daily one-on-one instruction)*
    • *instructional strategies (in terms of developing students' phonological processing skills and ability to read for meaning)*
    • *processes for supporting student transition back to the classroom*
    • *the way Reading Recovery is integrated into the wider school context*

4.   Are there any issues you face at your schools that hinder the effective implementation of Reading Recovery?

5.   Could you suggest any modifications that could be made to Reading Recovery or its implementation to better support the long-term progress of students?

6.   Are there any aspects of Reading Recovery or its implementation at your schools that you consider particularly effective in supporting the long-term progress of Māori or Pasifika students?

7. Could you suggest any further modifications that could be made to Reading Recovery or its implementation to better support the long-term progress of Mäori or Pasifika students?

Concluding question

8. Could we go around the group and get each person to make a final summary comment about the effectiveness of Reading Recovery in general, or for Mäori or Pasifika students in particular?

Thank you for taking part in this focus group. We really appreciate your time. If any of you wish to make further comments you can e-mail these to me at sue.mcdowall@nzcer.org.nz

Appendix G: Interview with Reading Recovery teacher

School code _____   Teacher code _____   Date_____

This interview is part of an NZCER study commissioned by the Ministry of Education on Reading Recovery and its effectiveness, particularly for Mäori and Pasifika students. I'll be asking you about your experiences of teaching Reading Recovery and about any particular needs of the Mäori or Pasifika students in Reading Recovery at your school. I'll also be asking you some more general questions about student access to Reading Recovery and the training of Reading Recovery teachers.

This interview should take about one to one-and-a-half hours. You don't have to answer any questions you're not comfortable with. I'd like to tape this interview as a back up for the notes I'll be taking if that is alright with you?

Do you have any questions before we start?

The first questions are about student access to Reading Recovery.

1. a)   Could you tell me about how you decide which students will have a place in Reading Recovery each year?

   b)   Who is involved in the decision-making process?

2. a)   Do all the students who you think need Reading Recovery have access to it?

   b)   (If not) Are there any particular groups of students who do not have access to it?

   c)   Why do they not have access to it?

   d)   Do you have any suggestions for ensuring that all students who need Reading Recovery have access to it?

3.   What do you usually do if there are more students who need Reading Recovery than places available?

The next questions are about the features of Reading Recovery including the methods of delivery and instructional strategies.

4.   What are the features of Reading Recovery that you consider particularly effective for supporting the long-term progress of students at this school? (For example, daily one-on-one instruction, length of sessions, resources)

5.   How effective do you think the *instructional strategies* used in Reading Recovery are for the long-term progress of students? That is in terms of developing students' phonological processing skills and the ability to read for meaning?

6. From your experiences are there some students who are more likely to make rapid progress with Reading Recovery, than others? Who are these students, and why are they more likely to make rapid progress?

7. Are there some students who are more likely to *maintain* their Reading Recovery gains than others? If so, who are these students and why are they more likely to maintain their gains?
    Is this related to:
    *   *student performance on entering Reading Recovery?*
    *   *patterns of progress while in Reading Recovery?*
    *   *the level of phonological processing skills they have when discontinued?*
    *   *the ability to read for meaning they have when discontinued?*
    *   *the quality of the class literacy programme?*
    *   *their successful transition back to the classroom?*
    *   *the support of parents?*
    *   *any other reasons?*

The next questions are about the implementation of Reading Recovery at this school

Student attendance, transience, and behaviour

8. Are there any issues you face at this school such as low attendance rates, or transience, which impact on the delivery of Reading Recovery or students' success in Reading Recovery?

9. Could you describe any strategies you have developed for supporting students whose attendance rates are low?

10. Have students ever left Reading Recovery or been dropped from it for reasons other than referral, discontinuation, or moving schools? (If yes) What were these reasons? (*Prompt: Poor attendance, behavioural problems*)

The effectiveness of Reading Recovery at this school

11. What are the features of this school that you think contribute to the effectiveness of Reading Recovery?

    For example:
    *   *Quality of literacy instruction in Year 1*
    *   *Quality of literacy instruction in Y2 and beyond*
    *   *Communication between the Reading Recovery teacher and class teachers*
    *   *Processes for supporting student transition off Reading Recovery*
    *   *Teacher use of data on Reading Recovery students*
    *   *Monitoring of students' progress after Reading Recovery*
    *   *Support provided to ex-Reading Recovery students*
    *   *Involvement of Reading Recovery teacher in staff PD and syndicate or school planning*
    *   *Involvement of parents*

12. Overall, are there any aspects of Reading Recovery or its implementation at this school that you consider particularly effective in supporting the progress of Māori or Pasifika students?

Referral

13. How effective is the process of referral from Reading Recovery to a specialist or another intervention? (*Prompt: Do you face any problems such as delays between interventions?*)

Working with classroom teachers of Reading Recovery students

14. Are there any ways you work with the class teacher to support students while they are in Reading Recovery?

15. Do you find there are any issues for teachers or students as students make the transition off Reading Recovery?

16. Are there any ways you work with the class teacher to support students as they make the transition off Reading Recovery?

17. Are there any ways you work with the class teacher to support students *after* they have made the transition off Reading Recovery?

18. What support do you need to be able to better work with, support or upskill classroom teachers of Reading Recovery students?

Long term monitoring and progress of ex-Reading Recovery students

19. a) Do you have any systems at this school for the long-term monitoring of ex-Reading Recovery students? (If yes) Could you please describe how this works?

    b) How is the monitoring data used?

20. Do Reading Recovery students typically continue to need extra support in Year 3 and beyond?

21. Are there any systems set up at this school for offering support to ex-Reading Recovery students who fall behind in the years following Reading Recovery?

Parents' involvement in Reading Recovery

22. Have you developed any strategies for sharing information with parents about Reading Recovery or supporting parent involvement? Could you describe these?

Possible modifications to Reading Recovery or its implementation at this school

23. Can you suggest any modifications that could be made to Reading Recovery or its implementation at this school to better support the long-term progress of students?

24. Can you suggest any modifications that could be made to Reading Recovery or its implementation at this school to better support the progress of Mäori or Pasifika students?

The next questions are about your role in the context of the school

25. Could you describe any opportunities you may have had to offer literacy advice or professional development to other staff members at this school? *(Prompt for both formal opportunities such as literacy meetings and informal opportunities such as conversations)*

26. Do you have any suggestions of ways in which your literacy knowledge could be further used in this school?

The next questions are about the training of Reading Recovery teachers

27.   Are the needs of Mäori or Pasifika students specifically focused on in the training of Reading Recovery teachers, and if so, how?

28.   Do you think more focus on Mäori and Pasifika students, needs to occur in training programmes? What would you suggest?

Concluding question.

29.   Is there anything else you would like to comment on, particularly in relation to Mäori and Pasifika students and Reading Recovery?

Thank you for giving your time to do this interview. Are there any questions you would like to ask me?

Appendix H: Interview with classroom teacher of Reading Recovery students

School code _____   Teacher code _____   Date_____

This interview is part of an NZCER study commissioned by the Ministry of Education on Reading Recovery and its effectiveness for Mäori and Pasifika students. I'll be asking you about your experiences of teaching students who attend Reading Recovery and about any particular needs of the Mäori or Pasifika students in the programme.

This interview should take about an hour. You don't have to answer any questions you're not comfortable with. I'd like to tape this interview as a back up for the notes I'll be taking if that is alright with you?

Do you have any questions before we start?

The first question is about your background.

1.   Have you ever trained as a Reading Recovery teacher? (If yes) Including your year of training, for how long did you work as a Reading Recovery teacher?

The next questions are about the children in your class who attend Reading Recovery.

2.   Reading Recovery is intended for children as near as possible to their 6th birthday. Do you think this is the best time for children to begin Reading Recovery? (*Prompt: Should this criterion be broadened?*)

3.   Can you describe any changes you observe in your students

     a)   during their time in Reading Recovery?
     b)   following their time in Reading Recovery?

4.   Do you notice any trends in students who have done Reading Recovery in terms of the skills they acquire, or the difficulties they continue to have? *(Prompt for phonological processing skills and ability to read for meaning)*

5.   From your experiences, are there some students who are more likely to make rapid progress with Reading Recovery, than others? Who are these students, and why are they more likely to make rapid progress?

6. Are there some students who are more likely to *maintain* their Reading Recovery gains than others? If so, who are these students and why are they more likely to maintain their gains?

    Is this related to:

    - *student performance on entering Reading Recovery?*
    - *patterns of progress while in Reading Recovery?*
    - *the level of phonological processing skills they have when discontinued?*
    - *the ability to read for meaning they have when discontinued?*
    - *the quality of the class literacy programme?*
    - *their successful transition back to the classroom?*
    - *the support of parents?*
    - *any other reasons?*

7. Have you noticed anything in common to the skills or difficulties of students who are not able to maintain their progress? (e.g. phonological processing skills and ability to read for meaning)

8. Are there any strategies you use in your classroom to support children

    a)   while they are in Reading Recovery?

    b)   as they make the transition off Reading Recovery?

    c)   to help them maintain their progress in the long-term?

9. Do you get information or support from the Reading Recovery teacher that you find useful in supporting students:

    a)   while they are in Reading Recovery?

    b)   as they make the transition off Reading Recovery?

    c)   to help them maintain their progress in the long-term?

10. Do you find there are any particular issues for students as they make the transition off Reading Recovery? *(Prompt: What are these issues and which students face them?)*

11. How effective do you think the processes used at this school are for supporting student transition off Reading Recovery?

12. Is there any further information or support that you would like while students are in Reading Recovery, as they make the transition off Reading Recovery, or in the long-term?

The next questions are about your views on the effectiveness of Reading Recovery and its implementation at this school.

13. What are the features of Reading Recovery that you consider particularly effective for supporting the long-term progress of students at this school? (For example, daily one-on-e instruction, length of sessions, resources)

14. How effective do you think Reading Recovery is for the long-term progress of students in terms of the *instructional strategies* used? That is in terms of developing students' phonological processing skills and the ability to read for meaning?

15. What are the features of this school that you think contribute to the effectiveness of Reading Recovery?

    For example:

    - *Quality of literacy instruction in Year 1*
    - *Quality of literacy instruction in Y2 and beyond*
    - *Communication between the Reading Recovery teacher and class teachers*
    - *Processes for supporting student transition off Reading Recovery*
    - *Teacher use of data on Reading Recovery students*
    - *Monitoring of students' progress after Reading Recovery*
    - *Support provided to ex-Reading Recovery students*
    - *Involvement of RR teacher in staff PD and syndicate or school planning*
    - *Involvement of parents*

16. Can you suggest any modifications that could be made to Reading Recovery or its implementation at this school to better support the long-term progress of students?

17. Are there any aspects of Reading Recovery or its implementation at this school that you consider particularly effective in supporting the long-term progress of Māori or Pasifika students?

18. Can you suggest any modifications that could be made to Reading Recovery or its implementation at this school to better support the long-term progress of Māori or Pasifika students?

19. Do you think having Reading Recovery at this school has influenced your approach to teaching reading and writing to students in your class in general? (If yes) Could you describe how?

Concluding question.

20. Is there anything else you would like to comment on, particularly in relation to Māori and Pasifika students and Reading Recovery?

Thank you for giving your time to do this interview.

Appendix I: Interview with classroom teacher of ex-Reading Recovery students

School code _____   Teacher code _____   Date _____

This interview is part of an NZCER study commissioned by the Ministry of Education on Reading Recovery and its effectiveness, particularly for Mäori and Pasifika students. I'd like to spend about half an hour to ask you some questions about your experiences of teaching children who have been in Reading Recovery in the past. I'd like to tape this interview as a back up for the notes I'll be taking if that is alright with you?

1. Do you notice any trends in students who have done Reading Recovery in terms of the skills they acquire or the difficulties they continue to have? (Prompt for phonological processing skills and ability to read for meaning)

2. Are there any strategies you use in the classroom to support or maintain the progress of children who have come from Reading Recovery?

3. Do you get information or support from the Reading Recovery teacher that you find useful in supporting students who have been in Reading Recovery?

4. Is there any further information or support that you would like to help you support students who have been in Reading Recovery?

5. What are the features of Reading Recovery that you consider particularly effective for supporting the long-term progress of students at this school? (For example, daily one-on-one instruction, length of sessions, resources).

6. How effective do you think Reading Recovery is for the long-term progress of students in terms of the *instructional strategies* used? That is in terms of developing students' phonological processing skills and the ability to read for meaning?

7. What are the features of this school that you think contribute to the effectiveness of Reading Recovery?

   For example:

   - *Quality of literacy instruction in Year 1*
   - *Quality of literacy instruction in Y2 and beyond*
   - *Communication between the Reading Recovery teacher and class teachers*
   - *Processes for supporting student transition off Reading Recovery*
   - *Teacher use of data on Reading Recovery students*
   - *Monitoring of students' progress after Reading Recovery*

- *Support provided to ex-Reading Recovery students*
- *Involvement of Reading Recovery teacher in staff PD and syndicate or school planning*
- *Involvement of parents*

8. Can you suggest any modifications that could be made to Reading Recovery or its implementation at this school to better support the long-term progress of students?

9. Are there any aspects of Reading Recovery or its implementation at this school that you consider particularly effective in supporting the long-term progress of Māori or Pasifika students?

10. Are there any modifications that could be made to Reading Recovery or its implementation at this school to better support the long-term progress of Māori or Pasifika students?

11. Do you think having Reading Recovery at this school has influenced your approach to teaching reading and writing to students in your class in general? (If yes) Could you describe how?

Thank you for giving your time to do this interview. Are there any questions you would like to ask me?

Appendix J: Interview with principal/deputy principal/ assistant principal

School code _____   Teacher code _____   Date _____

This interview is part of an NZCER study commissioned by the Ministry of Education on Reading Recovery and its effectiveness, particularly for Mäori and Pasifika students. I'd like to ask you some questions about the role of Reading Recovery in your school, your views of the effectiveness of Reading Recovery, and any issues you may face in offering Reading Recovery such as teacher training and sustainability.

This interview should take about one hour. You don't have to answer any questions you're not comfortable with. I'd like to tape this interview as a back up for the notes I'll be taking if that is alright with you?

Do you have any questions before we start?

The first questions are about student access to Reading Recovery.

1.   a)   Could you tell me how you decide which students will have a place in Reading Recovery each year?

      b)   Who is involved in the decision-making process?

2.   a)   Do all the students who you think need Reading Recovery have access to it?

      b)   (If not) Are there any particular groups of students who do not have access to it?

      c)   Why do they not have access to it?

      d)   Do you have any suggestions for ensuring that all students who need Reading Recovery have access to it?

3.   What do you usually do if there are more students who need Reading Recovery than places available?

The next questions are about your decisions to offer Reading Recovery at this school.

4.   Could you tell me the reasons you decided to offer Reading Recovery at this school?

5.   If there has been a time at which this school did not offer Reading Recovery, could you tell me the reasons for this?

6.   a)   Does this school offer other literacy interventions or programmes to support students with literacy difficulties in:

- Years 1 to 3?

- Years 4 and beyond?

       b)   (If yes) Could you tell me about the purpose of these other literacy interventions?

       c)   Do they target current- or ex-Reading Recovery students? (If yes) What are the reasons for this and how well does this combination of interventions work?

7.   Do you have any processes for monitoring the effectiveness of these other interventions?

8.   How effective do you think these other interventions are compared with Reading Recovery?

9.   a)   Have you ever considered replacing Reading Recovery with a different form of literacy intervention?

       b)   (If yes) what were your reasons for considering other options?

       c)   What made you decide to stay with Reading Recovery?

10.   What do you see as the particular strengths of Reading Recovery for the students at your school compared with other literacy interventions available?

The next questions focus on the impact of student attendance and transience on progress in Reading Recovery.

11.   Are there any issues you face at this school such as low attendance rates or transience, which impact on students' progress in Reading Recovery?

12.   Could you describe any strategies you have developed for supporting Reading Recovery students whose attendance rates are low?

13.   Have students ever left Reading Recovery or been dropped from it for reasons other than referral, discontinuation, or moving schools? (If yes) What are the reasons for this? (*Prompt: Poor attendance, behavioural problems*)

The next questions are about the effectiveness of Reading Recovery at this school

14.   What are the features of this school that you think support the effectiveness of Reading Recovery?

For example:

- *Quality of literacy instruction in Year 1*
- *Quality of literacy instruction in Y2 and beyond*
- *Communication between the Reading Recovery teacher and class teachers*

- *Processes for supporting student transition off Reading Recovery*
- *Teacher use of data on Reading Recovery students*
- *Monitoring of students' progress after Reading Recovery*
- *Support provided to ex-Reading Recovery students*
- *Involvement of Reading Recovery teacher in staff PD and syndicate or school planning*
- *Involvement of parents*

15. Could you suggest any modifications that could be made to Reading Recovery or its implementation at this school to better support the long-term progress of students?

16. Are there any aspects of Reading Recovery or its implementation at this school that you consider particularly effective in supporting the long-term progress of Māori or Pasifika students?

17. Can you suggest any modifications that could be made to Reading Recovery or its implementation at this school to better support the long-term progress of Māori or Pasifika students?

The next questions are about the funding and teacher training for Reading Recovery.

18. a) Have you funded Reading Recovery training over the last two years? *(If yes)* For how many teachers?

    b) What proportion of the training was Ministry funded and what proportion was school funded?

19. How do you select teachers for Reading Recovery training? (Prompt: Are there any particular qualities you think are important for teachers to have in order to make good Reading Recovery teachers?)

20. Are there any issues you face in terms of teacher training in Reading Recovery?

21. If your Reading Recovery teacher(s) left what would you do?

22. Do you see any issues with continuing to provide Reading Recovery at this school?

23. Do you think having Reading Recovery at this school influences the school's overall approach to literacy and if so, how?

Concluding question.

24. Is there anything else you would like to comment on, particularly in relation to Māori and Pasifika students and Reading Recovery?

Thank you for giving your time to do this interview. Are there any questions you would like to ask me?

Appendix K: Details of statistical techniques and interactions

To analysis the data in the 2003 Ministry of Education Reading Recovery national dataset general linear models (binomial models with a logit link function) and classification tree models were used to attempt to model the outcome using the `glm` and `rpart` functions, respectively, in R (R Development Core Team 2003). The number of lessons and test scores were modelled using linear models (Analysis of variance or ANOVA for the initial score and analysis of covariance or ANCOVA for the number of lessons and final score) using the `lm` function in R (R Development Core Team 2003), and the most parsimonious model involving only main effects and one-way interactions was selected. The variable selection was done using `addterm` and `dropterm` functions in the MASS library (Venables and Ripley 2002). The results of fitting three ANOVA models for the initial scores, six ANCOVA models for the final scores (separate models for the discontinued and referred students), and two ANCOVA models for the number of lessons (separate models for the discontinued and referred students) are reported.

The corresponding initial score and number of lessons received were used as covariates for the models with a final score as the dependent variable. The final scores are moderately correlated (r in the region of 0.5) with the initial scores, so including the initial score in the model allows us to see how much of the variability we can account for after or in addition to the initial score. The number of lessons is more weakly correlated with the initial and final score and difference between scores. In the models for the number of lessons, the differences between scores were used as covariates as these seemed the most appropriate.[48]

Detailed description of statistically significant interactions

The interactions described here were significant at the 1 percent level. Some are clear, easy to understand, and "make sense" in terms of the known situation in the schools and in Reading Recovery. Some appear to be mainly "noise".

Number of lessons

Discontinued students
The interactions that were significant at the one percent level and their nature were:

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[48]   They accounted for a reasonable proportion of the variability in the number of lessons, and the residual plots were acceptable, indicating that the assumptions required for the model were largely met, and in general performed better in the models than the initial scores did.

- **Decile by location**: In main urban areas the mean number of lessons tended to decrease with increasing decile (from 82 in decile 1–2 schools to 74 in decile 9–10 schools), but in other areas this gradient was far less marked. In secondary and minor urban areas there was no gradient across decile groups (in secondary urban areas for example, decile 1–2 school students received on average 80 lessons, and those in decile 9–10 received 79 lessons; students in all decile groups on average received between 79 and 83 lessons). Students at schools in rural areas showed a marked gradient between decile 3–4 and 7–8 schools (mean numbers of lessons of 83 and 73, respectively), but the mean number of lessons received by students in the highest and lowest decile groups were almost equal (both about 75).
- **Decile by percentage Mäori enrolment**: The mean number of lessons received by students in schools with moderate Mäori enrolment (8–29 percent) tended to show a decreasing trend with increasing decile (for those with 15–29 percent Mäori enrolment: from 84 lessons for students in decile 1–2 schools to 74 lessons for those in decile 9–10 schools). This trend was less marked for students in schools with higher or lower Mäori enrolment (for those with at least 30 percent enrolment: from 79 for students in decile 1–2 schools to 76 for those in decile 7–8 schools; there were too few students corresponding decile 9–10 schools to report the mean).
- **Location by percentage Mäori enrolment**: On average, overall, the mean number of lessons received tended to increase with increasing percentage Mäori enrolment. This trend was most marked for students at schools in the main urban areas (from 74 for schools with under 8 percent Mäori enrolment to 80 for schools with at least 30 percent) and rural areas (corresponding means of 74 and 77). The pattern for students at schools in secondary urban areas was markedly different; there the mean number of lessons received by those with moderate Mäori enrolment was greater (over 84) than the number received by those with higher (77) or lower (74) Mäori enrolment.
- **Location by school roll**: This interaction reflects the fact that while overall, on average, students at schools in secondary urban areas received the most lessons, and those at rural schools received the least, this ordering was not constant across the different school roll groupings (for example, students at rural schools of 200–299 pupils received more lessons than students at schools of the same size in secondary urban areas).

Referred students
- **Decile by location**: There was a tendency for the mean number of lessons to *increase* with increasing decile for students in main urban areas (from 86 for students in decile 1–2 schools to 95 for those in 9–10 schools). This may reflect the fact that students in these areas in low decile schools tended to be referred after fewer lessons than those in high decile schools. There were marked departures (probably random, and related to the small number of students involved) from this pattern for students at school in other areas.
- **School roll by type of school**: This interaction reflects the fact that while, on average, the number of lessons received by students in contributing and full primary schools was approximately equal, the mean number of lessons received by students in very small contributing schools (80) was lower than that received by students in similar full primary schools (90); in schools of 105–199 students it was students in full primary schools who

received more lessons (91 compared with 81 for those in contributing schools), and in the largest schools, the order was reversed again (92 for students in contributing schools and 85 for those in full primary schools). These variations may be in part due to the small number of students involved.

Instructional Text Level Task

Initial score

The interactions between factors that were statistically significant at the 1 percent level, and their nature were:

- **Decile by location**: Students at all schools showed a gradient of increasing scores with increasing decile. However, there were some minor exceptions: those at schools in minor urban and rural schools in the second highest decile group (7–8) had slightly higher scores (5.7 and 5.6, respectively) than those in those in the corresponding 9–10 decile group (5.0 and 5.3, respectively), and had markedly higher scores than those in larger centres in the same decile group (4.6 for main urban and 5.0 for secondary urban decile 7–8 schools). Amongst the students at decile 1–2 schools, the minor and secondary urban students scored more highly (4.3 and 4.2, respectively) than the main urban and rural students (3.3 and 3.7, respectively).
- **Decile by percentage Mäori enrolment**: The gradient in initial scores across decile groups is steepest in schools with at least 8 percent Mäori enrolment (means of 3.1 in decile 1–2 schools with 8–14 percent Mäori enrolment compared with 5.4 in decile 9–10 schools with the same Mäori enrolment, for instance), and is least marked in schools with under 8 percent Mäori enrolment (means of 4.3 and 5.0 in low and high decile schools, respectively).
- **Ethnicity by school roll**: Pasifika students in the largest schools (roll of at least 300) entered Reading Recovery with particularly low scores (mean of 2.8), but those in slightly smaller schools (roll of 200–299) had relatively high scores (mean of 4.1). However Mäori students in schools of 200–299 had relatively low scores (mean of 3.6). The Pasifika, Mäori, and Asian students showed greater variability in initial score across the different size schools (means between 2.8 and 5.1) than the NZ European/other students did (means between 4.6 and 5.3).
- **Location by percentage Mäori enrolment**: The initial scores of students attending main urban or rural schools with a high Mäori enrolment were particularly low (mean of 3.6 and 3.9, respectively). Overall, students at schools in secondary urban areas had relatively low initial scores, and within the groups defined by percentage Mäori enrolment, this pattern is seen for the two groups with moderate Mäori enrolment (together, between 8 and 29 percent of the roll are Mäori). However, for schools with either a very low or high Mäori enrolment, students in schools in secondary urban areas achieved the highest scores (5.5 and 4.3, for low and high Mäori enrolment, respectively).

Final score

The model for the final Instructional Text Level Task scores for discontinued students had more statistically significant interaction terms (and so variables) in it, yet accounted for less of the variability in final scores, than the model for the referred students. The interaction that was significant in the model for the referred students was not one of those that was significant in the model for the discontinued students (but is one that was significant in each of the models for referred students). It would appear that the final scores of the discontinued students depended on many things: their personal ability levels, how many Reading Recovery lessons they had, and school level characteristics. The final scores of the referred students depended to a large extent on the number of lessons they received, and less on school level variables. However, for all these students, having more lessons, and achieving a higher final score did not affect the fact that they were referred.

Discontinued students
- **Authority by decile**: Final scores of students in state schools increased in a regular way with increasing decile (from 17.4 in decile 1–2 schools to 18.5 in decile 9–10 schools), but those of students in state-integrated schools were more similar across all decile groups (all were between 18.2 and 18.5). In the lowest decile state-integrated schools (decile 1–2), the mean score was almost equal to the mean of students in decile 9–10 schools (18.2).
- **Authority by location**: On the whole the final scores of students at state-integrated schools were higher than those of students at state schools. The difference in score between students in the two systems was not constant across the different size centres. The difference was greatest between students in main urban areas (17.9 and 18.4 in state and state-integrated schools, respectively), and the direction of the difference was reversed between students at rural schools (but this was based on only seven students at state-integrated schools).
- **Decile by location**: All students in decile 1–2 schools achieved similar mean final scores (between 17.4 and 17.6). There was a relatively steady gradient across decile groups in all areas, but the gradient was least steep for students in schools in rural areas (from 17.6 in decile 1–2 schools to 18.1 in decile 9-10 schools), and most steep for students in minor and secondary urban areas (mean in decile 9–10 schools about 19.2).
- **Decile by percentage Mäori enrolment**: The mean scores of students at schools with under 8 percent Mäori enrolment were approximately equal across decile groups (all means were between 17.9 and 18.7, with the means for the lowest and highest decile group being 18.7 and 18.4, respectively), but those of students at schools with higher Mäori enrolment showed a gradient across decile groups with means of students at low decile schools being about 17.4 and those at high decile schools about 18.7. There was little evidence of a gradient across groups with increasing Mäori enrolment for students at schools with over 8 percent Mäori enrolment.
- **Decile by school roll**: The mean scores for students in all sizes of school showed a decile gradient, but this was steepest for those in the largest schools of 300+ students (means of 17.2 in decile 1–2 schools and 18.4 in decile 9–10 schools), and least steep those in the relatively small schools of 52–199 students (means of 17.8 in decile 1–2 schools and 18.4 in decile 9–10 schools).
- **Decile by type**: The final scores of students in contributing schools were lower than those in full primary schools in decile 1–8 groups, but in the highest decile group, the full primary

students achieved slightly higher scores. There was a marked trend of increasing score with increasing decile for students in both full primary and contributing schools; the increase was steepest across the lower decile groups for full primary students, and across the higher decile groups for contributing students. The trend was less obvious for students at composite schools, where the mean score for decile 1–2 students was almost the same as those for decile 3–6 students, and the mean for decile 9–10 students was particularly low (but based on only 17 students).

- **Location by percentage Mäori enrolment**: The mean final scores of students at schools of 15 percent or higher Mäori enrolment were similar, and showed a similar pattern across locations: the mean scores for those with 30 percent or higher Mäori enrolment (17.3–17.6) were lower than those with 15–29 percent Mäori enrolment (17.8–18.0); the means for students in main and minor urban areas were approximately equal and higher than the similar means for the students in secondary urban and rural areas. The mean scores for students at schools with lower than 15 percent Mäori enrolment were typically higher than those at schools with a higher Mäori enrolment, but showed a different pattern to each other and to students at schools with a higher Mäori enrolment. The highest mean score overall of 19.0 was achieved by students in secondary urban schools with under 8 percent Mäori enrolment. In schools with 8–14 percent Mäori enrolment the mean scores of students in secondary or minor urban areas were lower than those of students in main urban or rural areas.

Referred students

The only statistically significant interaction was between **authority and percentage Mäori enrolment**. The mean final score of referred students in state schools decreased with increasing percentage Mäori enrolment (from 12.5 for under 8 percent Mäori enrolment to 10.5 for 15–29 percent Mäori enrolment and 9.2 for over 30 percent Mäori enrolment). There was a relatively similar trend in state-integrated schools, but not as marked (from 10.6 for under 8 percent Mäori enrolment to 9.7 for 15–29 percent Mäori enrolment; there were too few students in the highest category to report that mean).

Burt Word Reading Test

Initial score

Two of the interactions between factors that were statistically significant at the 1 percent level, and their nature were similar to those that were significant for the initial Instructional Text Level Task score (ethnicity by roll size and location by percentage Mäori enrolment):

- **Authority by type of school**: The mean initial scores of students in state contributing or full primary schools (9.3 and 10.0, respectively) were higher than those of students in composite

schools in the same sector (8.7). For students at state-integrated schools, it was the students at composite schools who achieved higher mean scores (13.6, although there were only 17 such students) than those in contributing or full primary schools (9.8 and 11.6, respectively).

- **Ethnicity by roll size**: Pasifika students in the largest schools (roll of at least 300) entered Reading Recovery with particularly low scores (mean of 6.6), but those in slightly smaller schools (roll of 200–299) had relatively high scores (mean of 9.2). However Mäori students in schools of 200–299 had relatively low scores (mean of 7.7). The Pasifika, Mäori, and Asian students showed greater variability in initial score across the different size schools than the NZ European/other students did. The pattern was largely similar to that for the initial Instructional Text Level Task scores.
- **Location by percentage Mäori enrolment**: The initial scores of students attending rural schools with a high Mäori enrolment were particularly low (mean of 8.3). In the two groups with moderate Mäori enrolment (together, between 8 and 29 percent of the roll are Mäori), students in secondary urban areas had the lowest initial scores. However, for students with either a very low or high Mäori enrolment, the highest scores were achieved by students in schools in secondary urban areas.

Final score

Discontinued students

- **Authority by decile**: Final scores in state schools increased slightly but in a regular way with increasing decile (from 27.0 in decile 1–2 schools to 28.1 in decile 9–10 schools), but those in state-integrated schools were more similar across all decile groups (28.6 and 28.2 in the lowest and highest decile schools, respectively, with all between 28.0 and 29.6).
- **Authority by gender**: The differences between means were slight, but statistically significant because of the large number of students on the dataset. In state schools, females achieved a higher mean score than males (27.5 and 27.3, respectively), but in state-integrated schools the order was reversed (27.9 and 28.5, respectively).
- **Decile by location**: The mean scores of students in main urban areas showed a slight but regular gradient across decile groups (from 26.9 in decile 1–2 schools to 28.0 in decile 9–10 schools). The mean scores of students in other centres differed less by decile group, although the means for students at decile 9-10 schools in secondary or minor urban areas were the highest overall (29.5 and 30.0, respectively), and for students at schools in rural areas the group achieving the highest mean (28.6) was those in decile 1–2 schools.
- **Decile by percentage Mäori enrolment**: There was a slight gradient across decile groups in mean scores of students with 8–29 percent Mäori enrolment (26.7 to 28.3 for 8–14 percent Mäori enrolment decile 1–2 and 9–10 schools, respectively, for example), but not for students in schools with higher or lower Mäori enrolment.
- **Decile by school roll**: The mean score of students in the largest schools of 300+ students showed a relatively regular gradient across decile groups (from 16.0 in decile 1–2 schools to 28.1 in decile 9–10 schools). There was no such pattern for students in smaller schools. For

example, the mean scores for students in decile 1–2 schools of 52–104 students was 29.5 and that for students in decile 9–10 schools of the same size was 28.8.

- **Percentage of Mäori enrolment by type**: The mean score of students in contributing schools decreased with increasing percentage Mäori enrolment (from 28.0 for under 8 percent Mäori enrolment to 26.9 for 30+ percent Mäori enrolment). For students at full primary schools the mean for students at schools with 8–14 percent Mäori enrolment was the highest (28.2) and that for those at schools with 15–29 percent Mäori enrolment was the lowest (27.2).

- **School roll by type**: The mean score of students in contributing schools tended to increase with increasing school roll (from 26.1 in schools of under 52 students to 27.1 in schools of 300 or more students) whereas those of students in full primary or composite schools tended to decrease with increasing school roll (from 28.5 to 27.6 for full primary schools, for example). In all types of school the mean scores in the largest schools of at least 300 students were lower than those in schools of 200–299; this difference was greatest in contributing schools (27.1 and 27.6, respectively).

Referred students

- **Authority by percentage Mäori enrolment**: The difference between the mean scores of students at state and state-integrated schools was greater for students from schools with low percentage Mäori enrolment (18.9 and 15.9, respectively) than for those from schools with 8–29 percent Mäori enrolment (for example, for those with 15–29 percent Mäori enrolment the corresponding scores were 14.9 and 13.2). The mean scores of students at state schools consistently exceeded those at state-integrated schools except for those with high percentage Mäori enrolment, although this may be due to the small number of students at high Mäori enrolment state-integrated schools.

- **Decile by location**: There was a relatively marked gradient across decile groups in the mean final Burt scores of referred students at minor urban schools (from 10.3 in decile 1–2 schools to 20.9 in decile 9–10 schools), but there is little evidence of the gradient in the mean scores of students in secondary urban areas, The mean score of students in main urban areas show a more shallow gradient (from 13.7 to 16.3 in low and high decile schools, respectively), as do those of students in rural areas (from 15.9 to 20.1, respectively).

Clay Writing Vocabulary Task

Initial score

The interactions between factors that were statistically significant at the 1 percent level, and their nature included two of those that were significant for the initial Instructional Text Level Task and Burt Word Reading Test scores: ethnicity by school roll and location by percentage Mäori enrolment.

- **Authority by decile**: There was a marked tendency for the mean initial score to increase with increasing decile for the students at state schools (from 15.6 to 21.3). For those at state-integrated schools, the mean score of students in decile 1–2 schools was lower than that of the

other students (17.9), but students in decile 3–10 schools had similar scores (between 20.5 and 22.4).

- **Authority by school roll**: Mean initial scores of students in state schools of all sizes were relatively similar (between 18.2 and 20.1); those of students in state-integrated schools varied more widely (between 18.1 and 23.2). Students in smaller (under 104 pupils) state schools on average did better than students in state-integrated schools of the same size (for example, means of 20.1 and 19.2, respectively for those in 53–104 student schools); the opposite was true for students in larger schools, and typically the difference between the state school mean and the state-integrated school mean was larger (for example, means of 18.2 and 23.2, respectively, for those in 200–299 student schools).

- **Authority by type**: The mean scores of students at state and state-integrated contributing schools were almost equal (18.4 and 18.6, respectively); those in primary schools differed by more, and the greatest different was for students in composite schools (18.4 and 25.4, respectively, although this may be due to random variation as these means were based on 83 and 17 students, respectively).

- **Ethnicity by school roll**: Pasifika students in the largest schools (roll of at least 300) entered Reading Recovery with particularly low scores (mean of 13.4), but those in slightly smaller schools (roll of 200–299) had relatively high scores (mean of 18.1). However Mäori and NZ European/other students in schools of 200–299 had relatively low scores (means of 16.6 and 20.1, respectively). The Pasifika, Mäori, and Asian students showed greater variability in initial score across the different size schools than the NZ European/other students did. The pattern was largely similar to that for the initial Instructional Text Level Task scores.

- **Ethnicity by location**: There were few Pasifika and Asian students outside the main urban areas. However, amongst the Pasifika students, the mean score of those in the main urban areas was lower than the means of those in smaller centres. Among Mäori students, those in minor urban centres had the highest mean score (18.5), and those in main urban centres the lowest (17.2), whereas among NZ European/other students, those in rural areas had the highest score (20.3) and those in minor urban areas the lowest (19.0).

- **Location by percentage Mäori enrolment**: The mean initial scores of students attending schools in a main urban area showed a marked tendency to decrease with increasing percentage of Mäori enrolment (from 21.3 to 16.2). Students in minor urban areas showed little difference with increasing Mäori enrolment (from 19.1 to 18.3 for the lowest and highest percentage Mäori enrolment, respectively; all means were between 18.3 and 20.4).

Final score

Discontinued students
- **Authority by decile**: Mean final scores in state schools were similar (from 54.0 in decile 1–2 schools to 54.5 in decile 9–10 schools; the lowest mean score of 53.2 was for students in decile 7–8 schools), but those in state-integrated schools were more irregular across all decile groups (from 58.2 in decile 1–2 schools to 57.1 in decile 9–10 schools; the highest mean of 60.7 was for decile 3–4 schools and the lowest mean of 53.7 was for decile 5–6 schools).

- **Decile by location**: This interaction was statistically significant ($p < 0.001$) but there was no meaningful pattern. At none of the different locations was there a gradient across decile groups. The interaction was the result of differing orderings of decile group means in each of the location types.
- **Decile by school roll**: The mean final score showed a variable tendency to increase with increasing decile. The departures from this tendency are difficult to characterise meaningfully, but relatively high scores were achieved by students in very small (up to 52 students) and moderately large (200–299 students) decile 1–2 schools (58.9 and 56.7, respectively), compared with other students in decile 1–2 schools (scores in the range 53.3–53.9).
- **Ethnicity by school roll**: The final scores achieved by Māori students and NZ European/other students were relatively similar, both to each other and across the different size schools (all means in the 53.5–55.0 range). The final scores of the Pasifika and Asian students varied more widely, and the Asian students tended to have slightly higher scores than those in all other ethnic groups. The variability is in part due to small sample sizes in these groups. The relative order of final score for different school size groups was not consistent across the different ethnic groups, but did not vary in a way that forms a meaningful pattern.
- **Location by percentage Māori enrolment**: The mean score of students in minor urban areas showed a relatively strongly increasing trend with increasing Māori enrolment (50.7 to 55.1 for students at schools with under 8 percent and at least 30 percent Māori enrolment, respectively). For students in main and secondary urban areas there was little or no such trend (the corresponding mean scores were 54.5 and 55.2 for main urban areas and 50.7 and 52.2 for secondary urban areas), while for those at schools in rural areas the corresponding mean score for students at high Māori enrolment schools was the lowest (51.4).
- **Location by school roll**: This interaction is significant ($p < 0.0001$), but the patterns are difficult to interpret. The interaction is reflecting the fact that the relative order of mean scores of students in different size schools is not the same in each size of population centre.
- **Location by status**: Students in main urban areas had similar mean final scores, regardless of their status at the beginning of the year (between 53.9 and 55.0). In main urban areas, students who completed within the year achieved the highest final score (55.0) and those who had carried over from the previous year the lowest (53.9). In rural areas, students who moved from other schools achieved the highest score (59.3), and those who completed within the year (54.5) the lowest.
- **Percentage of Māori enrolment by school roll**: In schools of under 200 students the mean score was lowest for students at schools with the highest percentage Māori enrolment and relatively high for moderate Māori enrolment (8–29 percent) and relatively low for students at schools with low Māori enrolment (for example, in schools of under 52, the mean for students at schools of under 8 percent Māori enrolment was 54.1, for those with 8–29 percent Māori enrolment the mean was about 57.0, and in schools with at least 30 percent Māori enrolment the mean was 53.4). In larger schools, the mean scores tended to be lowest (about 53.5) for low percentage Māori enrolment (under 8 percent) and relatively high (over 54.3) for students at schools with at least 30 percent Māori enrolment.

Referred students

- **Authority by percentage Mäori enrolment**: The mean score of student at state schools decreased with increasing percentage Mäori enrolment (from 36.7 for under 8 percent Mäori enrolment to 28.1 for at least 30 percent Mäori enrolment). The mean score of students at state-integrated schools tended to be lower and more constant (corresponding means of 28.9 and 28.3).

- **Type by status**: On average the mean score of students carried over was higher than that of students new to Reading Recovery in the same school in 2003. This gap was wider for students in full primary schools (33.5 and 29.4, respectively) than for those in contributing schools (32.5 ad 30.8, respectively).