WHY THE NEW ZEALAND NATIONAL LITERACY STRATEGY HAS FAILED AND WHAT CAN BE DONE ABOUT IT

Evidence from the Progress in International Reading Literacy Study (PIRLS) 2011 and Reading Recovery Monitoring Reports

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SUMMARY

In this paper arguments and evidence are presented showing that New Zealand's national literacy strategy has failed, why it has failed, and what can be done to overcome the problem.

The paper begins with a summary of the key reports, reviews, and government policy initiatives that have occurred over the past 15 years to indicate the levels of concern that educators and policy makers have expressed regarding the persistently large inequities in literacy achievement outcomes.

New Zealand's relatively "long tail" of literacy underachievement was a major concern for educators and policy makers that grew during the 1990s. In response to these growing concerns, the Government established a Literacy Taskforce to provide recommendations aimed at raising the literacy achievement of all students but with particular attention given to "closing the gap between the lowest and highest students" (Ministry of Education, 1999b, p. 7).

The recommendations of the Taskforce constituted the *national literacy strategy* for reducing the large disparity in reading achievement outcomes between good and poor readers. The Ministry of Education (MoE) was given the responsibility of implementing the recommendations of the Taskforce.

More recently, in December 2011, the MoE's *Briefing to the Incoming Minister* (Ministry of Education, 2011) stated that:

> … the gap between our high performing and low performing students remains one of the widest in the Organization of Economic Cooperation and Development (OECD). These low performing students are likely to be Māori or Pasifika and/or from low socio-economic communities. Disparities in education appear early and persist throughout learning. (p. 8)

Based on these findings the *Briefing* concluded that, **"The greatest challenge facing the schooling sector is producing equitable outcomes for students"** (p. 23).

The key question arising from the summary of policy initiatives and government reports on literacy achievement over the past 15 years is this:

> **Why have concerns expressed by policy makers, teachers' unions, and legislative bodies regarding New Zealand's relatively large literacy achievement gap continued for such a long period of time? The answer is that New Zealand's national literacy strategy is simply not working.**

The remainder of the paper is divided into three sections. The first section presents findings showing that New Zealand's national literacy strategy has failed. The second section presents arguments and evidence regarding the major factors responsible for the persistence of New Zealand's wide gap in literacy achievement, and for why the gap has not diminished over the past 15 years despite major efforts by the MoE to address the problem. The third section reviews research on the most effective strategies for reducing the literacy achievement gap.

Evidence that New Zealand's National Literacy Strategy has Failed

Evidence that New Zealand's national literacy strategy has failed is demonstrated in two recently released reports: The Progress in International Reading Literacy Study (PIRLS) 2011 report (Mullis, Martin, Foy, & Drucker, 2012), and the latest annual monitoring report of Reading Recovery (RR) data in New Zealand, which includes trend data for the past 10 years (Lee, 2011).

PIRLS 2011

The PIRLS focuses on the achievement and literacy learning experiences of children from countries throughout the world in grades equivalent to Year 5 in New Zealand. It is a 5-year cycle of assessments that was first administered in 2001, then in 2005/2006, and again in 2010/2011. It includes a state-of-the-art test of reading comprehension that was designed to assess two aspects of reading literacy: purposes of reading and processes of comprehension.

The PIRLS 2011 results show that attempts by the Ministry of Education to reduce the large disparity between good and poor readers have failed, despite a decade of policies and resources aimed at closing the gap. Virtually no changes in educational outcomes have occurred.

- The average reading achievement score for New Zealand in the PIRLS 2011 study was not significantly different from either the PIRLS 2001 or 2006 studies (see Table 1).
- The number of countries that significantly outperformed New Zealand exceeded the number of countries that New Zealand significantly outperformed (as occurred in the PIRLS 2006 study).
- Of the six English-speaking comparison counties, all but one significantly outperformed New Zealand.
- Trend data revealed that, although there were more increases than decreases in mean reading achievement scores across countries from 2001 to 2011, New Zealand showed no significant increases in reading performance.
- The standard deviation (variation in scores) and range (between the 5th and 95th percentiles) for New Zealand's reading scores were almost unchanged from the PIRLS 2001 and 2006 studies and exceeded the values of most other countries, including those of the six English-speaking comparison countries.
- The large differences in reading achievement scores between Pākehā/European and Māori/Pasifika students have also not changed over the past decade (see Table 2).
- There were no significant changes from the PIRLS 2001 or 2006 results in either the relatively high percentage of New Zealand students who performed at the advanced international benchmark or the relatively high percentage of students who failed to reach the low international benchmark, despite a general improvement across other countries in the percentages of students reaching international benchmarks from 2001 to 2011.

Reading Recovery 2011

Regarding RR, if the programme had been successful in achieving its goal of substantially reducing the number of children who develop ongoing reading difficulties, then the large gap in reading performance consistently observed between good and poor readers since the 1991 international study of literacy achievement by the International Association for the Evaluation of Educational Achievement (Elley, 1992) should have steadily decreased after RR was introduced throughout the country in the mid-1980s. This has not been the case.

Data from RR annual monitoring reports and other sources indicate that RR has had little or no impact on reducing New Zealand's relatively large literacy achievement gap.

The reason is that the RR programme is of limited benefit to those students who need help the most, especially Māori/Pasifika students and students from low-income backgrounds. The data show that RR is less accessible to Māori and Pasifika students and students from low-income backgrounds, probably because of RR's relative ineffectiveness for these students. Also, a significant number of the lowest performing 6-year-olds are excluded from RR because they are considered unlikely to benefit from the programme, or they are withdrawn early because RR teachers could not bring them up to the expected rates of progress.

Māori and Pasifika students and students from low-income backgrounds are less likely to be successfully discontinued from RR and more likely to be referred on for specialist help, even though they generally receive extra lessons and spend more time in the programme than Pākehā students.

Students who enter RR with relatively high scores on the assessment measures of RR are much more likely to benefit from RR than students with relatively low scores. This finding adds to the evidence that RR generally does not work well for students who are most at risk for failing to learn to read.

Finally, research indicates that positive maintenance effects for the majority of successfully discontinued RR students are modest or non-existent. For these reasons RR has had little or no impact on reducing New Zealand's relatively large literacy achievement gap.

Why has New Zealand's National Literacy Strategy Failed?

Three factors have contributed to the failure of New Zealand's national literacy strategy:

- a constructivist orientation toward literacy education,
- the failure to respond adequately to differences in literate cultural capital at school entry, and
- restrictive policies regarding the first year of literacy teaching.

Pedagogical constructivism in literacy education

New Zealand has followed a predominantly constructivist approach to literacy education for the past 25 years. In this approach literacy learning is largely seen as the *by-product* of active mental engagement. There is little or no explicit, systematic teaching of phonemic awareness (the ability to reflect on and manipulate the phonemic segments of spoken words) and alphabetic coding skills (the ability to translate letters and letter patterns into phonological

forms). Yet, both phonemic awareness and alphabetic coding skills are essential for learning to read successfully.

Underpinning the constructivist approach to literacy teaching is the "multiple cues" theory of reading (sometimes called the "searchlights" model). According to this view, skilled reading is a process in which minimal word-level information is used to confirm predictions about the upcoming words of text based on multiple sources of information (Clay, 1991). Learning to read is seen largely as a process in which children learn to use multiple cues in identifying words in text. Text-based cues (i.e., picture cues, sentence context cues, preceding passage context, prior knowledge activated by the text) are used by students to predict the text yet to be encountered. Letter-sound information is generally used only to confirm word predictions or guesses and for self-correction (Clay, 1998).

The scientific community has firmly rejected the constructivist/multiple cues model of reading (Pressley, 2006). The major shortcoming of the multiple cues approach is that it stresses the importance of using information from many sources in identifying unfamiliar words in text without recognizing that skills and strategies involving phonological information are of primary importance in beginning literacy development.

Research indicates that for progress to occur in learning to read, **the beginning reader must acquire the ability to translate letters and letter patterns into phonological forms** (Ehri, 2005; Snow & Juel, 2005; Tunmer & Nicolson, 2011). To discover mappings between spelling patterns and sound patterns, children must also be able to segment spoken words into subcomponents. A large body of research shows that explicit, systematic attention to alphabetic coding skills in early reading instruction is more effective than non-systematic or no phonics instruction that characterize constructivist approaches (Brady, 2011; Hattie, 2009; Snow & Juel, 2005; Tunmer & Arrow, 2013).

RR is also based on the multiple cues theory of reading. In RR lessons particular emphasis is placed on reading strategies that involve children developing the flexible use of multiple cues to detect and correct errors while reading text (Clay, 2005a, b). Although there are serious shortcomings and much needed improvements in several aspects of RR, the most serious shortcoming concerns the differential effectiveness of the program.

The programme is beneficial for some struggling readers but not others, especially those struggling readers who need help the most. Research indicates that for these children, more intensive and systematic instruction in phonemic awareness and phonemically-based decoding skills is needed than what is normally provided in RR lessons (Chapman, Tunmer, & Prochnow, 2001; Church, 2005; Iversen, Tunmer, & Chapman, 2005).

Based on such findings, the Literacy Experts Group (Ministry of Education, 1999a) that advised the Literacy Taskforce (Ministry of Education, 1999b) included in its report the following unanimously agreed upon recommendation:

> We recommend that Reading Recovery places greater emphasis on explicit instruction in phonological awareness and the use of spelling-to-sound patterns in identifying unfamiliar words in text (p. 6).

This recommendation was rejected by the Literacy Taskforce.

Literate cultural capital, Matthew effects in reading achievement, and PIRLS 2011

For the past 20 years New Zealand has consistently shown comparatively high levels of variability in the test scores from international surveys of reading achievement. We have argued that New Zealand's relatively wide spread of scores is largely the result of Matthew (rich-get-richer and poor-get-poorer) effects (Stanovich, 1986). These Matthew effects are triggered by a predominantly constructivist, multiple cues approach to reading instruction and intervention that fails to respond adequately to differences in literate cultural capital at school entry (Tunmer, Chapman, & Prochnow, 2003). Literate cultural capital is a generic term referring to literacy-related knowledge and abilities at school entry that come from activities in the home environment that support early literacy development (Tunmer & Nicholson, 2011).

Children who do not have sufficient levels of essential reading-related skills when they start formal reading instruction (and who are not provided with supplementary instruction to develop these competencies, especially phonological awareness) are forced to rely increasingly on ineffective word identification strategies. Continued reliance on ineffective strategies, such as picture cues, partial visual cues, and contextual guessing, inevitably leads to literacy learning difficulties (Pressley, 2006). Because of their ineffective word identification skills, these children not only receive less practice in reading but eventually come across reading materials that are too difficult for them. **This often results in avoidance of reading, poor attention in class, low expectations of success, and withdrawal from literacy learning tasks (i.e., negative Matthew effects).**

Reliance on these poor word identification strategies is exacerbated by the multiple cues approach to teaching reading because emphasis is placed on encouraging beginning readers to use text-based cues (i.e., semantic-contextual and syntactic-contextual cues). Not enough attention is given to the development of phonemically-based word-level skills and strategies that are essential for success in learning to read. Lack of attention to these word-level skills is a significant disadvantage for those children who are less able to discover letter-sound patterns as a by-product of more general reading (Torgesen, 2004).

There is further evidence that New Zealand's large literacy achievement gap can be explained in terms of literate cultural capital and a constructivist orientation toward literacy education. Research indicates that:

- children enter school with large individual differences in the skills and competencies (i.e., literate cultural capital) important in learning to read;
- children from low-income and/or culturally diverse backgrounds on average begin school with considerably lower levels of literate cultural capital than middle-class children;
- children who possess higher levels of literate cultural capital at the beginning of school generally profit more from literacy instruction, learn to read sooner, and read better than those who do not;
- according to data from the PIRLS 2001, 2006, and 2011 studies, differences in literate cultural capital at the beginning of school are associated with larger differences in future reading achievement in New Zealand than in most other countries.

Given these findings, the challenge for policy makers in the MoE is to develop an approach to literacy education in which the new entrant with limited literate cultural capital has approximately the same chance of success in learning to read as the new entrant with an abundance of literate cultural capital.

Restrictive policies regarding the first year of literacy teaching

New Zealand educators and policy makers are very resistant to providing beginning readers with assessment and explicit instruction in skills that are essential for reading development (e.g., phonological awareness, alphabetic coding skills), especially during the first year of schooling when instruction in these skills would be most effective. This resistance stems from three sources.

Reading Recovery. The first formal assessment of literacy skills in New Zealand occurs at the end of the child's first year of schooling with the use of the Observation Survey developed by Clay (1998). Clay (2005a) argued that this in-depth assessment should not occur until the end of the child's first year of formal instruction because "the child should be given sufficient time to adjust to the school situation and a variety of opportunities to pay attention to literacy activities" (p. 12). *However*, research has shown that a more effective strategy for improving reading among struggling readers is to intervene at an *earlier* point (Lonigan & Phillips, 2012). Wagner (2008) argued against a "wait-to-fail" approach to reading intervention. Instead, new entrants should receive an initial evaluation consisting of measures of emergent literacy skills that are known to be important in early literacy development (e.g., phonological awareness, print awareness). Supplementary instruction in these skills would then be given to those children who needed it.

Constrained Skills Theory (CST). Constrained skills include phonological awareness, alphabetic coding skills, and reading fluency (i.e., automaticity in word recognition). Skilled readers ultimately master these skills completely and in a relatively short period of time. In contrast, unconstrained skills develop more slowly and are never completely mastered, as they continue to develop over the course of a lifetime. Unconstrained skills include vocabulary and comprehension skills.

Although not explicitly stated, the MoE appears to be using the distinction between constrained and unconstrained skills to avoid including in the national literacy standards an assessment of the core skills that underlie the development of literacy (Greaney & Tunmer, 2010). Instead, the literacy standards document focuses largely on describing sets of comprehension-enhancing strategies that students should be able to demonstrate at each year level. **Teachers are not required or encouraged to undertake systematic assessments of constrained skills at any point during the primary school years.** The Observation Survey (Clay, 1998) administered to children after they have completed a year of formal schooling does not include measures of phonological awareness, alphabetic coding skills, or reading fluency.

The MoE has highlighted a quote from Paris (2005) relating to constrained and unconstrained skills in providing the theoretical basis for national literacy standards. But the MoE needs to consider more carefully what Paris (2005) actually said about constrained skills. He stated that beginning readers "need to be instructed on those skills *early and persistently* by teachers and parents. Constrained skills *must be mastered*" (p. 199, emphasis added). Paris further said

that "constrained skills need to be mastered because they are necessary but not sufficient for other reading skills. They enable automatic decoding, deployment of attention, and application of comprehension strategies so they *set the stage for reading development*" (p. 200, emphasis added).

These comments by Paris (2005) strongly suggest that the MoE needs to place much greater emphasis on the assessment and teaching of constrained skills (i.e., phonological awareness, alphabetic coding skills, automaticity in word recognition) during the first year of formal schooling.

Culturally responsive instruction. Another source of the strong resistance to early skills-based teaching is the assumption that this approach to reducing the large inequities in achievement outcomes in literacy education is based on "deficit theory" that "pathologizes" children from low-income, culturally diverse backgrounds, and is antithetical to culturally responsive instruction (Berryman & Bishop, 2011; Fayden, 2005; Harris, 2009). Harris, for example, stated that words such as *gap*, *underachievement*, *disparity*, and *at-risk* "signal perceived deficiencies" (p. 12).

The views expressed by Harris (2009) and others appear to question the overwhelming research evidence that learning to read is a developmental process that takes place over time, involves qualitatively different (but perhaps overlapping) phases, and may break down at different points due to the failure to acquire the core skills that underlie the development of literacy (Ehri, 2005; Pressley, 2006; Snow & Juel, 2005; Tunmer & Nicolson, 2011).

The literacy learning needs of children necessarily vary because they differ in: (i) the amount of reading-related knowledge, skills, and experiences (i.e., literate cultural capital) they bring to the classroom; (ii) the explicitness and intensity of instruction they require to learn skills and strategies for identifying words and comprehending text, and; (iii) their location along the developmental progression from pre-reader to skilled reader. **It is better to talk in terms of the *specific learning needs* of students, not deficiencies.**

Teachers can be effective in reducing the gap in literacy achievement if they address the specific needs of children struggling to learn to read. Teachers can do this *regardless* of the cultural group or social class to which children belong. There is no evidence that explicit instruction in essential reading-related skills (i.e., constrained skills) cannot be done in a culturally sensitive and responsive manner. Teachers should certainly adjust their teaching to support students' identities, while at the same time holding the same expectations and standards of achievement for students of diverse backgrounds as for those from the dominant culture.

What can be done to Overcome the Failure of New Zealand's National Literacy Strategy?

Little or no progress has been made in reducing the literacy achievement gap because the constructivist/multiple cues model of reading adopted by the MoE as the theoretical basis for its approach to literacy teaching and intervention is fundamentally flawed.

The strategies for reducing the large inequities in achievement outcomes in New Zealand literacy education are to:

1. Make fundamental changes to regular classroom literacy instruction.
2. Replace RR with an alternative intervention programme that is specifically designed to target those struggling readers who need help the most.

Classroom literacy instruction

To reduce the unacceptably large gap in literacy achievement in New Zealand, classroom literacy instruction will need to change to reduce the influence of differences in literate cultural capital at school entry on future reading achievement. The most effective strategy for reducing the literacy achievement gap is to use differentiated instruction from the outset of formal schooling that takes into account interactions between school entry reading-related skills (high vs. low literate cultural capital) and method of teaching reading (constructivist vs. explicit approaches).

For some beginning readers, the processes of acquiring literacy skills are highly *learner dependent*. These children seem to grasp the idea of what is required to discover orthographic patterns after having had only a small amount of phonologically-based skills and strategies explicitly taught to them.

In contrast, for other children the learning processes are more *environment dependent.* These children require a fairly structured and teacher-supported introduction to reading (Snow & Juel, 2005).

Research indicates that these differences in literacy learning processes depend largely on the amount of literate cultural capital that children possess at school entry. *Learner-dependent* children have higher levels of essential reading-related knowledge, skills, and experiences, and *environment-dependent* children have more limited amounts (Juel & Minden-Cupp, 2000).

A predominantly constructivist, book experience approach to reading instruction with a major emphasis on reading books, writing text, and some incidental teaching of word analysis skills during reading and writing activities is therefore likely to be more suitable for *learner-dependent* children than heavy code-emphasis approaches.

However, *environment-dependent* children will almost certainly benefit more from beginning reading instruction that includes explicit, systematic teaching of phonological awareness and alphabetic coding skills outside the context of reading text *in combination with* plenty of opportunities to practice and receive feedback on using these skills during text reading.

In support of these claims, Connor, Morrison, and Katch (2004) found that children who began first grade with below-average reading-related skills made larger reading gains in classrooms that provided greater amounts of teacher-managed, code-focused instruction throughout the year than in classrooms that provided greater amounts of child-managed, meaning-focused instruction. In contrast, for children with high levels of reading-related skills at school entry, greater growth in reading was achieved in classrooms that provided lesser amounts of teacher-managed, code-focused instruction and greater amounts of child-managed, meaning focused instruction.

Of particular importance was the finding that when student characteristics were appropriately matched with instructional approach, the improvement in end of year reading scores resulting from good fitting instructional patterns varied greatly between children with high and low levels of literate cultural capital at the beginning of first grade.

For high literate cultural capital children, better fitting instructional patterns (i.e., child-managed, meaning focused instruction) resulted in about half a grade equivalent gain in end of year reading scores over less effective instructional patterns.

However, for low literate cultural capital children, better fitting instructional patterns (i.e., teacher managed, code-focused instruction) resulted in a difference of more than *two full grade equivalents* in end of year reading scores compared with poorly fitting instructional patterns.

These findings have particular significance for literacy education in New Zealand. The relatively high level of disparity in reading achievement outcomes among New Zealand readers can be explained in terms of a largely unidimensional, constructivist approach to literacy teaching that produces poorly fitting instructional patterns for students with limited amounts of literate cultural capital at the beginning of school.

The results of the Connor et al. (2004) study indicate that instructional strategies that may be effective with some students may be less effective for other students with different skills. In support of this claim, Connor et al. (2009) reported that children in first-grade classrooms that individualized reading instruction by taking into account child-by-instruction interactions made greater gains in reading achievement than children in classrooms that did not have individualized programs.

Reading Recovery

The RR programme is currently overseen by the Marie Clay Literacy Trust, which is responsible for the copyright of all RR materials and the RR trademark. No changes in the materials or procedures of RR can therefore be made without approval of the trustees. This makes it virtually impossible for school systems or countries (including New Zealand) to make changes to the RR programme based on recent research *or* to conduct independent studies investigating ways of modifying the programme to improve outcomes and/or cost effectiveness.

In a study of RR, McDowall, Boyd, Hogden, and van Vliet (2005) found that RR was less beneficial for Māori and Pasifika students than for other students. Problems associated with the benefits of RR for Māori and Pasifika were generally attributed to implementation, resourcing, family/cultural factors, and inappropriate textual materials *but not to the programme itself*.

McDowall et al. overlooked the fundamental problem with RR, which is that it is based on the multiple cues theory of reading, a model of reading that was rejected by the scientific community over three decades ago (e.g., Stanovich, 1980). As Church (2005) noted, RR "was designed in the 1970s prior to most of the modern research into how children learn to read. Not surprisingly, therefore, it lacks a number of elements which have been found by research to be essential in teaching low achieving children how to read" (p. 13).

As part of the effort to overcome the failure of New Zealand's national literacy strategy, RR needs to be replaced with an intervention programme that is based on contemporary theory and research on reading intervention and targets children who are most at risk of failing to learn to read.

Conclusions

The constructivist/multiple cues model of reading adopted by the Ministry of Education as the theoretical basis for its approach to literacy teaching and intervention is fundamentally flawed. **As a consequence, little or no progress has been made in reducing New Zealand's unacceptably large inequities in literacy achievement outcomes.**

This claim is supported by the PIRLS 2011 results which show that virtually no changes in educational outcomes have occurred over the past decade. The mean reading achievement score for New Zealand in the PIRLS 2011 study was not significantly different from the PIRLS 2001 or 2006 studies, and the wide distribution of New Zealand's reading scores was almost unchanged from the PIRLS 2001 and 2006 studies. This wide distribution, manifest in the "long tail" of low scores, continues to be greater than most other countries.

Analyses of Reading Recovery data from annual monitoring reports indicated that RR has had little or no impact on reducing New Zealand's relatively large literacy achievement gap because the programme is of limited benefit to those children who need help the most, especially Māori/Pasifika students and students from low-income backgrounds. In addition, research indicates that positive maintenance effects for the majority of those students who are successfully discontinued from the RR programme, are modest or non-existent.

The arguments and evidence presented in this study should not be taken as suggesting that New Zealand teachers are responsible for the failure of the national literacy strategy. Data from the PIRLS 2011 study indicate that New Zealand teachers are well above the international average in level of formal education and availability of school resources for teaching reading.

Rather, the failure is largely the result of the misguided policy decisions of the Ministry of Education over the past 15 years. Doing the same thing (in terms of literacy instruction) with more resources, will only lead to the same, unacceptable results.