

The Reading Recovery Approach
To Preventive Early Intervention:
As Good as it Gets?

William E. Tunmer

James W. Chapman

Department of Learning and Teaching
Massey University

August 2001

Author Note

Correspondence concerning this article should be addressed to William E. Tunmer,
Department of Learning and Teaching, Massey University, Private Bag 11222,
Palmerston North, New Zealand. Email address: W.Tunmer@massey.ac.nz

Abstract

Reading Recovery is a widely used preventive early intervention program designed for young children who have failed to respond adequately to formal reading instruction after 12 months of schooling. The focus of this article is on the theoretical underpinnings of the program, the assessment battery used in the program, the specific procedures and instructional strategies emphasized in the program, and the manner of program delivery. Following an examination of Reading Recovery in relation to contemporary theory and research on children's reading problems, fundamental changes to the program are recommended.

The Reading Recovery Approach to Preventive Early Intervention:

As Good as it Gets?

Reading Recovery is a widely used intervention program developed in New Zealand by Marie Clay (1985) to help children who are having trouble learning to read after a year of formal reading instruction. Daniels, Zemelman, and Bizar (1999) recently described Reading Recovery as "phenomenally successful" (p.35), and Johnston and Allington (1991) stated that Reading Recovery "is the most effective remedial intervention currently available" (p. 1006). The central question addressed in this article is whether these claims are valid: Is Reading Recovery as good as it gets?

The general aim of Reading Recovery is to substantially reduce the incidence of reading failure in a school system by accelerating to average levels of performance the progress of 6-year-old children who show early signs of reading difficulty (normally children whose reading progress falls in the lowest 20% of the enrolment cohort in any given school). Particular emphasis is placed on developing within these children a self-extending system of reading strategies that involves the flexible use of multiple cues to detect and correct errors while constructing meaning from text (Clay, 1991). A number of issues relating to the implementation and evaluation of Reading Recovery in different settings can be considered (e.g., student assessment measures, data collection procedures, use of gain scores, selective use of data, maintenance effects, cost effectiveness), and several investigations and extensive reviews of the Reading Recovery program have appeared in the literature

(e.g., Center, Wheldhall, Freeman, Outhred & McNaught, 1995; Hiebert, 1994; Iversen & Tunmer, 1993; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994; Rasinski, 1995; Shanahan & Barr, 1995; Wasik & Slavin, 1993).

Our focus in this article is on the more specific issue of the relative emphasis given in Reading Recovery lessons to the use of text-based strategies and word-based strategies in identifying unfamiliar words in text. Text-based strategies include the use of picture cues, semantic cues (which indicate whether the attempted response satisfies the semantic constraints of the sentence; e.g., "The ball ate the sandwich"), syntactic cues (which indicate whether the attempted response satisfies the grammatical constraints of the sentence; e.g., "The boy slept the door"), preceding passage content, and prior knowledge activated by the developing meaning of the text. Word-based strategies include the use of correspondences between single letters or digraphs and single phonemes, correspondences between groups of graphemes (e.g., tion) and groups of phonemes (e.g., /shun/), orthographic analogies (i.e., reading an unknown word like claw by analogy to a known word like saw), and polyphonic letter patterns (e.g., ear as in bear and hear, own as in clown and flown, where children generate alternative pronunciations of the word until one is produced that matches a word in their listening vocabulary).

The critical question, we believe, is this: Holding the basic parameters of the Reading Recovery program constant, namely, that it involves one-to-one instruction for 30 to 40 minutes per day for 12 to 20 weeks by a specially trained teacher and that it supplements regular classroom reading instruction, are the specific procedures and instructional strategies of Reading Recovery more effective than any

other one-to-one (or small group) tutoring program for struggling readers?

Although Reading Recovery has been a nationally implemented program in New Zealand since the 1980s, there has been, to our knowledge, no attention given by either the Ministry of Education or the developers of Reading Recovery to answering this fundamental question.

But there is every reason for doing so. On the basis of the most comprehensive and stringent meta-analysis of one-to-one tutoring programs in reading yet reported, Elbaum, Vaughn, Hughes and Moody (2000) concluded as follows:

Overall, the findings of this meta-analysis do not provide support for the superiority of Reading Recovery over other one-to-one reading interventions. Typically, about 30 percent of students who begin Reading Recovery do not complete the program and do not perform significantly better than control students. As indicated in this meta-analysis, results reported for students who do complete the program may be inflated due to the selective attrition of students from some treatment groups and the use of measures that may bias the results in favor of Reading Recovery students. Thus it is particularly disturbing that sweeping endorsements of Reading Recovery still appear in the literature. (p. 617)

Relatedly, the Literacy Experts Group (Ministry of Education, 1999a) that advised the New Zealand government's recent Literacy Taskforce (Ministry of Education, 1999b) established to develop the framework for the National Literacy

Strategy, included in their report the following unanimously agreed upon recommendation:

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

Theoretical Underpinnings of Reading Recovery

The recommendation of the Literacy Experts Group draws attention to the major shortcoming of the instructional philosophy of Reading Recovery, which is that it stresses the importance of using information from many sources in identifying unfamiliar words without recognizing that skills and strategies involving phonological information are of primary importance in beginning literacy development (Perfetti, 1985, p. 239). Reading Recovery was designed to complement regular classroom literacy instruction in New Zealand and is essentially a more intensive version of what occurs in New Zealand classrooms (Smith & Elley, 1994; Thompson, 1993). Teachers in New Zealand are trained to adopt a naturalistic, whole language approach to teaching reading (Chapman, Tunmer & Prochnow, 2001; Smith & Elley, 1994; Tunmer & Chapman, in press a; Tunmer, Prochnow & Chapman, 1999). Children are taught to learn what they need to know about reading incidentally through frequent encounters with absorbing reading materials. According to Smith and Elley (1994), two leading proponents of the whole language approach in New Zealand, "reading and writing are best

acquired 'naturally' in the same way we learn to speak and listen" (p. 81). If children are immersed in a print-rich environment in which the focus is on the meaning of print, they will readily acquire reading skills, according to this view. As Smith and Elley (1994) put it, "children learn to read themselves; direct instruction plays only a minor role" (p. 87). The focus of this approach, then, is on learning to read by reading, with minimal attention being given to the development of essential word-level skills and strategies. Instead, beginning readers are urged to use preceding passage content, sentence context cues and picture cues as the primary strategies for identifying unfamiliar words in text.

The emphasis in whole language programs and Reading Recovery on the use of text-based strategies stems from the incorrect assumption that skilled reading is a process in which minimal word-level information is used to confirm language predictions. Clay (1991), for example, described fluent reading as follows:

In efficient rapid word perception the reader relies mostly on the sentence and its meaning and some selected features of the forms of words.

Awareness of the sentence context (and often the general context of the text as a whole) and a glance at the word enables the reader to respond instantly. (p. 8)

On the basis of this assumption, whole language proponents concluded that the development of reading ability is largely a matter of learning to rely increasingly on the syntactic and semantic redundancies of language to generate hypotheses about the text yet to be encountered. As Smith and Elley (1994) argued, children

"learn to read with minimal input from the text, predicting and confirming and making sense as they go" (p. 142). Children in whole language and Reading Recovery programs are therefore urged to use context as the primary strategy for identifying words in text. They are taught to monitor for meaningfulness and to make corrections only when necessary to make sense. As Clay (1991) stated, "meaning is the most important source of information" and "the most important test for the child to make is 'Does it make sense?'" (p. 292).

Children in whole language and Reading Recovery programs are also taught to use letter-sound cues, but only very sparingly and mainly to confirm language predictions. According to Clay (1993), "the child checks language predictions by looking at some letters" and "can hear the sounds in a word he speaks [i.e., predicts] and checks whether the expected letters are there" (p. 41). Clay (1998) specifically states that beginning readers "need to use their knowledge of how the world works; the possible meanings of the text; the sentence structure; the importance of order of ideas, or words, or of letters; the size of words or letters; special features of sound, shape, and layout; and special knowledge from past literary experiences before [emphasis added] they resort to left to right sounding out of chunks or letter clusters or, in the last resort, single letters" (p. 9). This instructional emphasis reflects Clay's strong top-down theoretical orientation to fluent reading, according to which only minimal sampling of word features is required to confirm text-based predictions.

The whole language view of reading, however, has been rejected by the scientific community. Pressley (1998), for example, recently stated that "the scientific evidence is simply over-whelming that letter-sound cues are more

important in recognizing words than either semantic or syntactic cues" (p. 16), and that heavy reliance on the latter is a "disastrous strategy" for beginning readers (p. 32). Although many children in whole language literacy programs successfully learn to read through an instructional approach that places primary emphasis on the use of sentence context cues to identify unfamiliar words in text, it does not follow that this instructional emphasis is reflected in the word identification strategies that the vast majority of these children actually use in learning to read, as our own research suggests (Tunmer & Chapman, in press a). In a longitudinal study of beginning literacy development in a whole language instructional context, we found that the majority of Year 1 children reported using word-based strategies. Moreover, these children consistently performed better on measures of reading achievement and reading-related skills during their second and third years of schooling than Year 1 children who reported using text-based strategies.

As Liberman and Liberman (1992) pointed out, most children - probably 75% - will independently discover the enormous value of taking advantage of the alphabetic code in identifying words, which they must do to achieve progress in reading, regardless of the method of instruction to which they are exposed. The use of letter-sound relationships is the basic mechanism for acquiring word-specific knowledge, including knowledge of irregularly spelled words (Ehri, 1992, 1997; Gough & Walsh, 1991; Tunmer & Chapman, 1998). Using word-based strategies enables beginning readers to identify unfamiliar words which, in turn, results in the formation of sublexical connections between orthographic and phonological representations in lexical memory. These interconnected representations provide

the basis for rapid and efficient access to the mental lexicon, which frees up cognitive resources for allocation to comprehension and text integration processes (Adams & Bruck, 1993; Ehri, 1992, 1997; Perfetti, 1992). According to this view, then, when beginning readers encounter an unfamiliar word in text, they should first rely on word-based strategies and then possibly use context, but only to confirm hypotheses about what unfamiliar words might be, based on information from partial decoding attempts (Tunmer & Chapman, 1998, in press b).

Instructional Strategies and Procedures of Reading Recovery

Instructional Strategies

A major criticism of the instructional philosophy of Reading Recovery (and whole language) concerns the degree of explicitness and detail with which word-level skills and strategies are taught. Liberman and Liberman (1992) estimated that 20 to 25% of beginning readers will not discover spelling-to-sound patterns as a by-product of more general reading, suggesting that these children require more explicit instruction in alphabetic coding and related skills. Although a naturalistic, informal, whole language approach to reading instruction (in which word analysis activities arise incidentally from the child's responses during text reading) may be suitable for many children, low-readiness and struggling beginning readers appear to require a more highly structured, systematic approach with particular attention focussed on the development of phonologically-based skills and strategies (Calfee & Drum, 1986). As Adams and Bruck (1993) argued, "wherever children who cannot

discover the alphabetic principle independently are denied explicit instruction on the regularities and conventions of letter strings, reading disability may well be the eventual consequence" (p. 90).

It is perhaps no accident, then, that a staggering 20 to 25% of all 6-year-old children in New Zealand require expensive, intensive, one-to-one Reading Recovery tutoring after a year of formal reading instruction (Nicholson, 2000). Most of these children have made little or no progress toward gaining independence in reading and show substantial deficits in phonological processing skills (i.e., phonological awareness, alphabetic coding). Given that Reading Recovery is essentially a more intensive version of what occurs in regular New Zealand classrooms, it seems unwise to put children who are failing to learn to read by the age of six into a remedial reading program using the same methods that most likely contributed to the failure in the first place.

In support of these claims are the results of a longitudinal study of Reading Recovery that we carried out in New Zealand (Chapman, Tunmer, & Prochnow, 2001). We found that children independently selected by their schools for Reading Recovery experienced severe difficulties in detecting sound sequences in words (phonological awareness) and in relating letters to sounds (alphabetic coding) during the year preceding entry into the program. Participation in Reading Recovery did not appreciably reduce these deficiencies, and the failure to remedy these problems severely limited the immediate and long-term effectiveness of the program. The few children who received some benefit from Reading Recovery were more advanced in phonological processing skills at the beginning of the program

than children who derived little or no benefit from the program, and progress in learning to read following participation in Reading Recovery was strongly related to phonological processing skills at discontinuation from the program (for similar findings in other countries, see Center et al., 1995; Iversen & Tunmer, 1993).

Most importantly, Reading Recovery failed to significantly improve the literacy development of children considered to have succeeded in the program. These children showed no signs of accelerated reading performance, and one year after completion of the program, they were performing at around one year below age-appropriate levels. Moreover, the children showed declines in reading self-concept following Reading Recovery, and they held more negative perceptions of ability in reading and spelling, and in general academic self-concept than normally developing readers 6 and 12 months following Reading Recovery.

Another important feature of Reading Recovery is the use of a literature-based approach to beginning reading instruction in which the use of graded reading materials based on controlled vocabulary and sentence structure is greatly de-emphasized or eliminated altogether. Instead, children in Reading Recovery (and whole language) programs read "real" books that contain stories (usually one per book) that can be read in a single sitting (Tunmer & Chapman, 1999). The books selected for use are graded into a sequence of difficulty levels based on teacher judgements of children's responses to each story as a whole rather than to vocabulary items within the story. To be assigned to a particular level for instructional purposes, a child must be able to read the books at that level with a word-recognition accuracy rate above 90%. Because no readability formulas are

used in assessing text level in this approach, children reading at a particular level are exposed to a wider range of vocabulary and a greater variety of language forms than they would be when reading at a particular level in most basal reading series.

These considerations strengthen further the argument that Reading Recovery needs to place greater emphasis on providing struggling readers with direct, systematic instruction in orthographic patterns and word identification strategies rather than relying on "mini-lessons" given in response to children's oral reading errors during text reading. Because such a high proportion of the words used in authentic children's literature appear infrequently, children in Reading Recovery programs are continually encountering words that they have not seen before and may not see again for some time. Relying on the developing meaning of the sentence or passage to guess unfamiliar words will be of little help because the meaning of text depends disproportionately on the meanings of its least familiar and least predictable words (Adams, 1991).

Changing the goal of word-level instruction in Reading Recovery from reading a specific text (with word-level instruction occurring "as the need arises") to learning skills and strategies that may generalize to all texts, does not mean adopting a rigid skill-and-drill approach in which word-level skills are largely taught in isolation with little or no connection to actual reading. Although struggling readers should receive explicit and systematic instruction in letter-sound patterns and word identification strategies outside the context of reading connected text, they should also be taught how and when to use this information during text reading through demonstration, modelling, direct explanation, and guided practice.

It cannot be assumed that struggling readers who are successful in acquiring word analysis skills will automatically transfer them when attempting to read connected text (Lyon & Moats, 1997). Emphasis should therefore be placed on developing self-improving strategies for acquiring spelling-sound relationships rather than on just teaching individual spelling patterns per se, as in the skill-and-drill approach. That is, children's procedural, or "how to", knowledge should be developed as well as their declarative, or factual knowledge. As the reading attempts of poor readers become more successful, they will begin making greater independent use of letter-sound information to identify words from which additional spelling-sound relationships can be induced without explicit instruction (Juel, 1991).

In support of these claims is earlier research we (Iversen & Tunmer, 1993) reported indicating that the effectiveness of Reading Recovery could be improved considerably by incorporating into the program more intensive and explicit instruction in phonological awareness and the use of letter-sound relationships, in combination with strategy training on how and when to use this knowledge during text reading. Similarly, Hatcher, Hulme, and Ellis (1994) reported that adding systematic training in phonological awareness to a remedial reading program modelled after Reading Recovery was highly effective and produced greater gains in the poor readers than either the remedial reading program or phonological awareness training on its own.

In a more recent study, Morris, Tyner and Perney (2000) examined the effectiveness of Early Steps, a first grade reading intervention program that is very similar to Reading Recovery, especially in the emphasis it places on contextual

reading and writing. However, a key difference is that Early Steps also includes direct, systematic study of orthographic patterns that is "purposefully isolated from meaningful context so that the child can pay full attention to the patterns being studied" (p. 682). Morris et al. (2000) cite an earlier statement by Morris (1993) that captures this important distinction between Reading Recovery and Early Steps:

We should not dismiss the possibility (as Clay seems to do) that some children might benefit from studying a single information source (e.g., spelling patterns) in isolation while simultaneously being offered the chance to integrate this knowledge in contextual reading and writing. However small this instructional distinction may seem, it is at the heart of a century-old debate concerning the role of isolated word study (phonics) in beginning reading instruction. (p. 251).

Morris et al. (2000) found that Early Steps was highly effective, especially for those children who were most at risk. The latter finding is consistent with several studies showing that children who benefit least from Reading Recovery, which does not include systematic instruction in alphabetic coding, are less advanced in phonological processing skills at the beginning of the program than children who derive greater benefit from the program (Center et al., 1995; Chapman, Tunmer & Prochnow, 2001; Iversen & Tunmer, 1993).

Assessment Procedures

The arguments and evidence in support of including more explicit training in

phonological processing skills in Reading Recovery draw attention to another major shortcoming of the program. The assessment battery used in Reading Recovery does not include tests that provide teachers with more comprehensive knowledge of children's control over vital aspects of the reading acquisition process; namely, phonological awareness, knowledge of spelling-to-sound patterns, and knowledge of word-based strategies for identifying unfamiliar words.

In addition, the major outcome measure of Reading Recovery, reading book level, appears to be a highly unreliable measure of reading achievement that yields inflated estimates of children's progress. In New Zealand, two studies have reported large discrepancies between the book level assessments of Reading Recovery and classroom teachers (Chapman, Tunmer & Prochnow, 2001; Glynn, Crooks, Bethune, Ballard, & Smith, 1989). In the Chapman et al. (2001) study, the mean book level reported by Reading Recovery teachers for the children completing the program was 16.6, whereas the classroom teachers reported a mean book level of only 9.0 for the same children, a dramatic difference. Independent and research-validated measures of reading performance from the study supported the classroom teachers' assessments of book levels. Because those who have a vested interest in the success of Reading Recovery collect and collate data from the children participating in the program, systematic bias may be introduced into the assessment process when a measure as unreliable as reading book level is used.

In support of this interpretation, Elbaum et al. (2000) found in their meta-analysis of one-to-one tutoring programs that book level yielded a higher effect size estimate for Reading Recovery programs than any other measure. Similarly, in an

analysis of summary data from North American sites, Hiebert (1994) found that although the Reading Recovery children attained reading book levels at discontinuation from the program that were comparable with their same-age peers, performance on measures of reading comprehension, and identification of unknown or nonsense words was relatively poor. These considerations suggest that standardized measures of phonological awareness, knowledge of letter-to-sound patterns, context free word recognition, and reading comprehension should be incorporated into the Reading Recovery program.

Program Delivery Issues in Reading Recovery

Instructor-Pupil Ratio

Another major issue addressed in the meta-analysis by Elbaum et al. (2000) concerns one-to-one versus small group instruction:

One-to-one interventions place severe practical limits on the number of students that can receive supplemental instruction. Despite the popular belief that one-to-one instruction is more effective than instruction delivered to large numbers of students, there is actually little systematic evidence to support this belief. Each additional student that can be accommodated in an instructional group represents a substantial reduction in the per-student cost of the intervention, or alternatively, a substantial increase in the number of students that can be served. (p. 606)

Research by Hiebert, Colt, Catto, and Gury (1992) suggests that small-group tutoring can be very effective at the primary level. With respect to Reading Recovery, Wasik and Slavin (1993) described a study by Pinnell et al. (1994) comparing Reading Recovery with two other one-to-one intervention programs and another program (called Reading and Writing Group) that involved small group instruction (four children/group) by teachers who had been trained as Reading Recovery teachers. These teachers used Reading Recovery materials and strategies but adapted them to the small group setting "in their own ways". As expected, the children who received the standard one-to-one version of Reading Recovery showed the greatest gains. However, of greater interest was the finding that small group Reading Recovery instruction produced better gains than the other two one-to-one programs, and the best overall gains on a standardized measure of reading achievement:

It is interesting to note that after the full program, it was the Reading and Writing Group (RWG) treatment that had the most positive effects (ES = +.29 for Dictation, +.32 for Text Reading Level). This treatment also had the largest positive effects on the May Gates-MacGinitie of all treatments (ES = +.34). (Wasik & Slavin, 1993, p. 187)

On the basis of these results, Wasik & Slavin (1993) made the following suggestion for future research:

One important set of questions concerns how much reading failure can be prevented using resources short of one-to-one instruction by certified

teachers. Could one-to-two or one-to-three instruction be nearly as effective?
(p. 197)

Those who manage the delivery of Reading Recovery are strongly opposed to adapting the program to small group instruction because, they maintain, the program is designed to respond to the individual needs of problem readers, which are assumed to vary considerably across children. As Pinnell, Lyons, and Jones (1995) put it, changing Reading Recovery from one-to-one to small group tutoring would be "like saying to the ward nurse, 'Don't issue individual medication. Mix all the drugs together and give each patient the same dose'" (p. 20).

The above argument is faulty in two respects. First, the data from our longitudinal study of Reading Recovery showed that children participating in the program were, without exception, experiencing severe difficulties in detecting sound sequences in words, in relating letters to sounds, and in identifying individual words out of context (Chapman, Tunmer & Prochnow, 2001). These findings are entirely consistent with the generally accepted view among reading scientists that the primary phenotypic manifestation of developmental reading problems is poor context free word recognition ability and associated phonological processing deficits (Lyon & Moats, 1997; Stanovich, 1996). Stanovich (1996) succinctly described the canonical model of reading difficulties as follows: "Impaired language segmentation skills lead to difficulties in phonological coding which in turn impede the word recognition process which underpins reading comprehension" (p. 155). Returning to Pinnell et al.'s medical analogy, the ward

nurse wouldn't give a different drug to each patient if they all suffered from the same affliction (e.g., malaria).

Second, studies cited in the meta-analysis by Elbaum et al. (2000) and a study by Iversen (1997) indicate that there is little or no advantage of one-to-one Reading Recovery instruction over small-group Reading Recovery instruction, where group size ranged from two to four students. In a carefully designed and systematic adaptation of Reading Recovery to instruction in pairs, Iversen (1997) found that the same outcomes of Reading Recovery could be achieved by children taught in pairs as those taught individually by increasing the duration of the lesson by an average of only eight minutes.

Similar arguments can be made in relation to "roaming around the known", in which the first 10 lessons of any child's Reading Recovery program are devoted to consolidating what is already known without introducing any new learning (Clay, 1985). Given that virtually all children with reading difficulties show deficits in phonological processing skills, the efficiency of the Reading Recovery program might be improved considerably if the assessment (by measures not currently included in the Reading Recovery test battery) and remediation of phonological processing deficits began on entry into the program rather than being delayed for 10 or more lessons. Moreover, teachers would certainly not want to waste precious time "consolidating what is already known" if that meant reinforcing ineffective learning strategies, such as relying on partial word-level cues and contextual guessing.

Congruence between Classroom Curriculum and Reading Recovery Program

Another issue relating to program delivery concerns the congruence of Reading Recovery with the child's regular classroom literacy program. There may be inconsistencies in reading materials and instructional methodologies between the two. Although this problem is not likely to occur in New Zealand, where Reading Recovery was developed to complement regular classroom literacy instruction, it may arise in countries and educational systems where early literacy instructional practices are less uniform. However, Clay (1993) boldly claims that Reading Recovery is compatible with all types of classroom literacy programs:

It should be stressed that a Reading Recovery program can be used with children from any kind [emphasis added] of classroom program, and in a brief period of help, supplementary to the ongoing activities of the classroom, it brings the hardest-to-teach children to a level where they can be full participants in that classroom program. (Clay, 1993, preface)

Clay offers no evidence in support of this claim.

In a recently reported Australian study, Center, Freeman, and Robertson (2001) investigated the question of whether the efficacy of Reading Recovery varies as a function of classroom literacy program. Center et al. (2001) compared the effects of Reading Recovery in "meaning-oriented" (i.e., whole language) classrooms and "code-oriented" classrooms (i.e., those that included explicit and systematic instruction in phonological awareness and alphabetic coding). Results indicated

that overall students in the code-oriented classrooms significantly outperformed students in the meaning-oriented classrooms on measures of phonological recoding, reading connected text, and invented spelling, and on a standardized reading measure at the end of the second year of schooling. Similarly, the Reading Recovery students in the code-oriented classrooms significantly outperformed the Reading Recovery students in the meaning-oriented classrooms on all four literacy measures, with an average reading age advantage of 8 months on the standardized reading measure. However, the Reading Recovery students in both classes failed to reach the average level of their peers on any of the literacy measures.

Of particular interest were the findings that a much higher percentage of Reading Recovery students from meaning-oriented classrooms (83%) than from code-oriented classrooms (50%) were considered to have been unsuccessfully recovered (which was defined as falling below the 30th percentile on at least three of the four literacy tests); that the mean number of weeks to discontinuation for Reading Recovery students from meaning-oriented classrooms was significantly greater than for Reading Recovery students from code-oriented classrooms (18 weeks from versus 14.5 weeks); and that a much greater percentage of Reading Recovery students from meaning-oriented than from code-oriented classrooms were either withdrawn or unsuccessfully discontinued from Reading Recovery (25% versus 5%). These findings clearly contradict Clay's (1993) claim that the regular classroom context does not differentially affect the literacy performance of Reading Recovery students. The results also provide further support for the argument that explicit training in phonological processing skills should be incorporated into the

Reading Recovery program, and that Reading Recovery instruction should be coordinated with classroom curriculum.

Concluding Remarks

In summary, there are four aspects of the Reading Recovery program that we believe need immediate attention: the theoretical underpinnings of the program, the assessment battery used in the program, the specific procedures and instructional strategies emphasized in the program, and the manner of program delivery (one-to-one instruction versus instruction in pairs), all of which could greatly improve the effectiveness of the program. But here's the rub. As indicated in a recent article reporting that Reading Recovery is under review by the New Zealand Ministry of Education,

If any changes were made to Reading Recovery, they could be made to its administration only, or they would risk being in breach of the program's trademark. Its developer, Marie Clay, said she held a trademark on the name Reading Recovery to protect the program's integrity. (Rivers, 2001, February 16, p. 1)

At this point we are reminded of a comment made by Spear-Swerling and Sternberg (1996):

A couple of years ago, one of the co-authors attended a conference presentation aimed at recruiting teachers for participation in a well-known

early intervention program in reading. This co-author was startled to hear the presenters use the term franchise in describing the distribution of the program to different school districts. The word conjured up images of hamburger stands and fried-chicken restaurants, where harried-looking employees distribute food in prewrapped, standardized packages. The underlying tone of the presentation seemed to imply that there was one "right" way to do early intervention in reading and that, unless the procedures advocated by the developers of this particular program were followed down to the last detail, early intervention would be ineffective. (p. 273)

After reviewing the available research on preventing reading problems through early intervention, Spear-Swerling and Sternberg (1996) concluded:

No single program is the solution to preventing reading failure. No single program succeeds with all children, and early intervention can be accomplished in a variety of ways. (pp. 294-295)

We not only agree with this conclusion but are convinced that Reading Recovery in its present form is not the most effective approach to preventive early intervention. It is not as good as it gets.

References

Adams, M. J. (1991). Why not phonics and whole language? In W. Ellis (Ed.), Whole language and the creation of literacy (pp. 40-53). Baltimore, MD: Orton Dyslexia Society.

Adams, M. J. & Bruck, M. (1993). Word recognition: The interface of educational policies and scientific research. Reading and Writing: An Interdisciplinary Journal, 5, 113-139.

Calfee, R. C., & Drum, P. A. (1986). Research on teaching reading. In M. C. Wittrock (Ed.), Handbook of Research on Teaching (pp. 804-849). New York: Macmillan.

Center, Y., Freeman, L., & Robertson, G. (2001). The relative effect of a code-oriented and a meaning oriented early literacy program on regular and low progress Australian students in Year 1 classrooms which implement Reading Recovery. International Journal of Disability, Development and Education, 48, 207-232.

Center, Y., Wheldall, K., Freeman, L., Outred, L., & McNaught, M. (1995). An evaluation of Reading Recovery. Reading Research Quarterly, 30, 240-263.

Chapman, J. W., Tunmer, W. E., & Prochnow, J. E. (2001). Does success in the Reading Recovery program depend on developing proficiency in phonological processing skills? A longitudinal study in a whole language instructional context. Scientific Studies in Reading, 5, 141-176.

Clay, M. M. (1985). The early detection of reading difficulties. Auckland,

New Zealand: Heinemann.

Clay, M. M. (1991). Becoming literate: The construction of inner control.

Auckland, New Zealand: Heinemann.

Clay, M. (1993). Reading Recovery. Auckland, New Zealand: Heinemann.

Clay, M. (1998). An observation survey of early literacy achievement.

Auckland, New Zealand: Heinemann.

Daniels, H., Zemelman, S., & Bizar, M. (1999). Whole language works: Sixty years of research. Educational Leadership, 57, 32-37.

Ehri, L. (1992). Reconceptualizing the development of sight word reading and its relationship to recoding. In P. Gough, L. Ehri, & R. Treiman (Eds.), Reading acquisition (pp. 107-143). Hillsdale, NJ: Lawrence Erlbaum Associates.

Ehri, L. C. (1997). Sight word learning in normal readers and dyslexics. In B. Blachman (Ed.), Foundations of reading intervention and dyslexia: Implications for early intervention (pp. 163-189). Mahwah, NJ: Lawrence Erlbaum Associates.

Elbaum, B., Vaughn, S., Hughes, M., & Moody, S. (2000). How effective are one-to-one tutoring programs in reading for elementary students at risk for reading failure? A meta-analysis of the intervention research. Journal of Educational Psychology, 92, 605-619.

Glynn, T., Crooks, T., Bethune, N., Ballard, K., & Smith, J. (1989). Reading Recovery in context. Wellington, New Zealand: Department of Education.

Gough, P. B. & Walsh, M. (1991). Chinese, Phoenicians, and the orthographic cipher of English. In S. Brady & D. Shankweiler (Eds.), Phonological processes in literacy (pp. 199-209). Hillsdale, NJ: Lawrence Erlbaum Associates.

Hatcher, P. J., Hulme, C., & Ellis, A. W. (1994). Ameliorating early reading failure by integrating the teaching of reading and phonological skill: The phonological linkage hypothesis. Child Development, 65, 41-57.

Hiebert, E. H. (1994). Reading Recovery in the United States: What difference does it make to an age cohort? Educational Researcher, 23, 15-25.

Hiebert, E. H., Colt, J., Catto, S., & Gury, E. (1992). Reading and writing of first-grade students in a restructured Chapter 1 program. American Educational Research Journal, 29, 545-572.

Iversen, S. (1997). Reading Recovery as a small group intervention. Unpublished doctoral dissertation, Massey University, Palmerston North, New Zealand.

Iversen, S. A., & Tunmer, W. E. (1993). Phonological processing skill and the Reading Recovery program. Journal of Educational Psychology, 85, 112-125.

Johnston, P., & Allington, R. (1991). Remediation. In R. Barr, M. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), Handbook of reading research, (Vol. 2, pp. 984-1012). New York: Longman.

Juel, C. (1991). Beginning reading. In R. Barr, M. Kamil, P. Mosenthal, & P. D. Pearson (Eds.) Handbook of reading research (Vol. 2, pp. 759-788). New York: Longman.

Liberman, I. Y., & Liberman, A. M. (1992). Whole language versus code emphasis: Underlying assumptions and their implications for reading instruction. In P. Gough, L. Ehri & R. Treiman (Eds.), Reading acquisition (pp. 343-366). Hillsdale, NJ: Lawrence Erlbaum Associates.

Lyon, G. R., & Moats, L. C. (1997). Critical conceptual and methodological considerations in reading intervention research. Journal of Learning Disabilities, 30, 578-588.

Ministry of Education (1999a). Literacy Experts Group Report to the Secretary for Education. Wellington, New Zealand: Ministry of Education.

Ministry of Education (1999b). Report on the Literacy Taskforce: A report prepared for the Minister of Education. Wellington, New Zealand: Ministry of Education.

Morris, D. (1993). Review of Marie Clay's Becoming literate: The construction of inner control. Reading Psychology, 14, 245-253.

Morris, D., Tyner, B., & Perney, J. (2000). Early Steps: Replicating the effects of a first-grade reading intervention program. Journal of Educational Psychology, 92, 681-693.

Nicholson, T. (2000). Reading the writing on the wall. Palmerston North, New Zealand: Dunmore Press.

Perfetti, C. A. (1985). Reading ability. New York: Oxford University Press.

Perfetti, C. A. (1992). The representation problem in reading acquisition. In P. Gough, L. Ehri, & R. Treiman (Eds.), Reading acquisition (pp. 145-174). Hillsdale, NJ: Lawrence Erlbaum Associates.

Pinnell, G. S., Lyons, C. A., De Ford, D. E., Bryk, A., & Seltzer, M. (1994). Comparing instructional models for the literacy education of high at-risk first graders. Reading Research Quarterly, 29, 8-39.

Pinnell, G. S., Lyons, C. A., & Jones, N. (1995, Winter). Response to Hiebert:

What difference does Reading Recovery make? Network News, Reading Recovery Council of America, pp. 18-22.

Pressley, M. (1998). Reading instruction that works: The case for balanced teaching. New York: Guilford Press.

Rasinski, T. (1995). On the effects of Reading Recovery. Reading Research Quarterly, 30, 264-270.

Rivers, J. (2001, February 16). Reading Recovery review. New Zealand Education Review, p. 1.

Shanahan, T., & Barr, R. (1995). Reading Recovery: An independent evaluation of the effects of an early instructional intervention for an at-risk learners. Reading Research Quarterly, 30, 958-996.

Smith, J. W. A., & Elley, W. B. (1994). Learning to read in New Zealand. Auckland, New Zealand: Longman Paul.

Spear-Swerling, L., & Sternberg, R. J. (1996). Off track: When poor readers become "learning disabled". Boulder, CO: Westview Press.

Stanovich, K. E. (1996). Toward a more inclusive definition of dyslexia. Dyslexia, 2, 154-166.

Thompson, G. B. (1993). Reading instruction for the initial years in New Zealand schools. In G. B. Thompson, W. E. Tunmer, & T. Nicholson (Eds.), Reading acquisition processes (pp. 148-154). Clevedon, UK: Multilingual Matters.

Tunmer, W. E., & Chapman, J. W. (1998). Language prediction skill, phonological recoding ability, and beginning reading. In C. Hulme, & R. M. Joshi (Eds.), Reading and spelling: Development and disorders (pp. 33-67). Mahaw, NJ:

Lawrence Erlbaum Associates.

Tunmer, W. E., & Chapman, J. W. (1999). Teaching strategies for word identification. In G. B. Thompson, & T. Nicholson (Eds.), Learning to read: Beyond phonics and whole language (pp. 74-102). New York: Teachers College Press & International Reading Association.

Tunmer, W., & Chapman, J. (in press a). The relation of beginning readers' reported word identification strategies to reading achievement, reading-related skills, and academic self-perceptions. Reading and Writing: An Interdisciplinary Journal.

Tunmer, W. E., & Chapman, J. W. (in press b). The use of context in learning to read. In P. Bryant & T. Nuñez (Eds.) Handbook of Literacy. Dordrecht, the Netherlands: Kluwer Academic.

Tunmer, W., Prochnow, J., & Chapman, J. (1999). Science can inform educational practice: The case of literacy. New Zealand Annual Review of Education, 9, 133-156.

Wasik, B. A., & Slavin, R. E. (1993). Preventing early reading failure with one-to-one tutoring: A review of five programs. Reading Research Quarterly, 28, 179-200.