combination of components that is the key to student progress. Across the Reading Recovery lesson, students learn "how to learn" all aspects of the reading process. As they work to understand the texts they read, they are learning that reading makes sense. They learn how to think while reading. As they work to solve words, they learn how words work so that they can apply strategies as they read other texts. They learn to use what they know to get to what they do not yet know. The powerful strategies that make up a reading process can not be developed without practice in many different ways. Reading Recovery teachers intentionally work to be sure that students make connections across the components of the lesson framework. A key concept in Reading Recovery is that *"Every new thing learned should be revised in several other activities."* (Clay, 1993b, p. 25). That concept makes for flexibility in learning. It is the balance of activities, the opportunity to use skills in many ways, that provides for acceleration.

Reading Recovery consists of an interrelated set of learning experiences within which teachers help children:

- develop systems for learning all aspects of literacy—that is, "learn how to learn;"
- attend to needed details such as letters, sounds, and words;
- use skills while reading and writing continuous text; and,
- engage in strategic processing through massive opportunities to read continuous text.

If one considers the organization of Reading Recovery lessons, each of the preceding criteria (Lyon & Moats, 1997) are met. Lesson format and content are deliberately organized in a format that provides a balanced approach to instruction, including attention to reading familiar and novel texts, writing a message of importance to the child, phonemic awareness, letter-sound correspondence, basic sight words, fluency, and teaching for strategic processing.

Calibration of concept difficulty is built into each lesson component because the expert teacher makes appropriate teaching decisions based on the minute-by-minute observations of the child. Corrective feedback is provided throughout the lesson such that children gain competence and independence as readers and writers during each lesson. Reading Recovery teachers spend much time selecting the materials that will both sustain children's developing understandings about literacy and take them to a new level of understanding. Finally, teachers think carefully about what they say and how they say it in order to assure a conscious interplay between spoken and written language during teaching. They use consistent language to help students gain control over reading and writing; and they provide whatever scaffolds are necessary to assist young learners in becoming literate.

Reading Recovery lessons provide balance (as previously indicated), and decoding or phonological skills are taught in order for the child to either read or write words in real messages; these things are not taught as an end in themselves. The lack of transfer to gains made in textual reading accuracy and fluency found in some interventions is avoided in Reading Recovery because the instruction takes place around actual reading and writing. Daily gains are made in terms of the ability to read gradually more and more difficult texts and write more complex messages. Almost all instruction in Reading Recovery lessons centers on "explicitly integrating learned phonological concepts into word- and text-reading tasks" (consistent with Lyon & Moats, 1997, p. 581).

The Reading Recovery lesson is a highly structured, intensive teaching and learning experience. Reading Recovery lessons have been criticized for their structure and for the explicit nature of the teaching (Barnes, 1996-97; Dudley-Marling &

Murphy, 1997). Reading Recovery teachers (Browne, Fitts, McLaughlin, McNamara, & Williams, 1996) claim that Reading Recovery lessons are part of the balance of the entire literacy education that the child is receiving and that, working one-on-one with students who are confused, it is easier to attend specifically to what the child needs to know.

> According to Pressley, Wharton-McDonald, & Hampston (1998): Those who criticize the structure of Reading Recovery lessons miss one of the most striking features of Reading Recovery lessons, which we have observed personally: Reading Recovery students seem to get a charge out of the lessons. Although it may be hard for some whole language enthusiasts to accept that there can be joy for children in anything except immersion in literature and unstructured and undemanding opportunities to compose, experiencing success in Reading Recovery lessons seems to be a source of joy for students. (p. 180)

Principle 9: Early Intervention: Intervene early to undercut reading failure.

Consider this statement from the Committee on the Prevention of Reading Difficulties in Young Children: "Consistent with the view that reading develops under the influence of many early experiences, it is the committee's judgment that deferring intervention until third or fourth grade should be avoided at all costs" (Snow, Burns, & Griffin, 1999, p. 326). It seems clear that we must intervene early to start children on the road to competent literacy.

Early Intervention and Reading Recovery

Reading Recovery is specifically designed to accomplish the goal of undercutting reading failure. It is not a classroom program, nor is it aligned with any particular classroom program. It is an *early intervention* with one clear goal: "…to dramatically reduce the number of learners who have extreme difficulty with literacy learning and the cost of these learners to educational systems." (Quoted from Marie Clay's implementation visit to North Carolina, 1994). Reading Recovery is a relatively brief (12 to 20 weeks) safety net intervention. Children are entered into Reading Recovery at a critical time in their school careers (age six or during first grade).

The goal of Reading Recovery is to help children make accelerated progress, catch up with their first grade peers, and be able to profit from good, ongoing classroom instruction. It is a supplementary opportunity for children and is not intended to replace classroom instruction. "It is especially designed for the lowest achieving children. Acting as a safety net within a good instructional literacy program, Reading Recovery can be part of a strong, comprehensive approach to bring all students to literacy." (Askew, Fountas, Lyons, Pinnell, & Schmitt, 1998).

Principle 10: Individual Tutoring: Provide one-on-one assistance for the students who are having the most difficulty.

Working one-on-one with a child is one of the most effective forms of instruction (Slavin, 1989; Slavin, Karweit, & Madden, 1989). Tutoring allows the teacher to work from the child's strengths and to introduce material in a way that is more effective. Moreover, the tutoring must be provided by an expert teacher, one who has demonstrated the ability to teach children who are having difficulty. The Committee on the Prevention of

Reading Difficulties in Young Children (Snow, Burns, & Griffin, 1999) found no evidence that volunteers can deal effectively with children who have serious reading problems. They say: "Although volunteer tutors can provide valuable practice and motivational support for children learning to read, they should not be expected either to provide primary reading instruction or to instruct children with serious reading problems" (p. 12).

Individual Tutoring and Reading Recovery

Reading Recovery is defined as one-on-one tutoring. It is not a classroom program; it is not a small group program. The procedures require detailed adjustment to the specific strengths of individuals, a process that is essential for children who are confused about literacy. Quite simply, if the instruction is not one-on-one, it is not Reading Recovery (*Standards and Guidelines of the Reading Recovery Council of North America*, 1998). Clay (1993b) states:

> A programme for a child having difficulty learning to read should be based on a detailed observation of that child as a reader and writer, with particular attention to what the child can do. The programme will work out of these strengths and not waste time teaching anything already known. (p. 7)

Individual tutoring is a critical factor in helping the child to make accelerated progress. It is not enough for a young child to make progress - even satisfactory progress. He must catch up with his first grade peers before he falls farther and farther behind. It is true that good classroom instruction will be needed each year for these vulnerable children to continue to make progress; but if they fall far behind in the first and second years of schooling, their chances of success are greatly reduced.

Individual tutoring does not guarantee accelerated progress. Lessons must be *daily* for each child so that momentum will not be lost. The child must have enough tutoring (that is, stay in the school for 12 to 20 weeks) to gain momentum and relate understandings so that progress is accelerated. Progress must be carefully monitored, with problem-solving help for the teacher, through a high quality implementation (Askew, *et. al.*, 1998; Pinnell, 1997).

Above all, the teacher must be highly skilled at recognizing particular literacy learning difficulties and selecting appropriate Reading Recovery procedures. The teacher must work skillfully and powerfully with the child's responses in order to maximize the learning each day.

Teachers selected for Reading Recovery are experienced primary teachers who make the commitment to an initial year of training as well as ongoing professional development. Reading Recovery teachers undergo a full year of training. It takes time and support for teachers to change their practices and select with ease, on the run, the appropriate next move in any child's lesson designed to achieve maximum progress in a minimum of time. By the end of the training year, teachers are well versed in procedures that have been found to benefit beginning readers. Teachers have internalized ways of observing children as they read and write in order to inform further instruction.

In the United States alone, Reading Recovery has served over half a million children since its pilot year in 1984-85. Eighty-three percent of the children who had a full Reading Recovery program developed independent reading and writing strategies. According to the latest *Executive Summary* (The Ohio State University and RRCNA, 1998), 333,387 successful replications of the program have been carried out in the United States. This

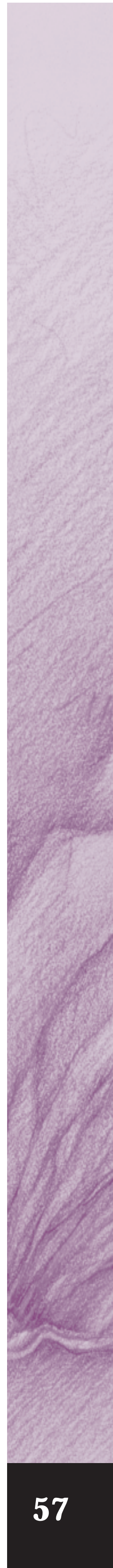
means that 333,387 children most at risk learned to be independent, fluent readers of real books. No other intervention has demonstrated this consistency and effectiveness. "Evidence firmly supports the conclusion that Reading Recovery does bring the learning of many children up to that of their average-achieving peers" (Shanahan & Barr, 1995). To Reading Recovery teachers, the goal of Reading Recovery is to place children within the average band of classroom.

Summary: A Complex Process, A Complex Solution

The purpose of this document has been to review selected research recommended by NICHD as a sound basis for designing literacy programs and particular intervention programs to help struggling readers. The following chart summarizes ten principles that this research suggests are essential for intervention programs. Supporting research, as well as components and teaching procedures characteristic of Reading Recovery, are listed for each of the ten principles (see Table 2).

Table 2. Summary Chart: Research and Reading Recovery

Instructional Goal	Supporting Research	How Reading Recovery Addresses the Goal in One-on-One Lessons
1) Phonological Awareness	Adams (1990) Ball & Blachman (1991) Blachman (1984) Bradley & Bryant (1983) Bryant, MacLean, Bradley, & Crossland (1990) Bryant, Bradley, Camlean, & Crossland (1989) Fox & Routh (1980) Griffith & Olson (1992) Juel (1991) Liberman, Shankweiler, Fischer, & Carter (1974) Lomax & McGee (1987) Lundberg, Frost, & Petersen (1988) Perfetti, Beck, Bell, & Hughes (1987) Snow, Burns, & Griffin (1998) Treiman & Baron (1981) Tunmer, Herriman & Nesdale (1988) Vellutino & Denckla (1991) Vellutino & Scanlon (1987)	• Assessing phonemic awareness using Hearing and Recording the Sounds in Words. • Using "sound boxes" to train children in phonemic awareness. • Helping children hear sounds in sequence. • Helping children connect words by how they sound in writing.
2) Visual Perception of Letters	Adams (1990) Liberman, Shankweiler, & Liberman (1985) Pressley (1998) Snow, Burns, & Griffin (1998) Stanovich (1985) Venezky (1965) Walsh, Price, & Gillingham (1988)	• Assessing letter recognition with the Letter Identification test and Concepts About Print test. • Using magnetic letters to learn to look at and recognize letters. • Writing letters with explicit verbal instructions. • Making personal alphabet books. • Using letters and clusters and looking carefully across words, picking up letter-sound relationships. • Using letters to monitor reading.



3) Word Recognition	Adams (1990) Biemiller (1970) Blanchard (1980) Calfee & Piontkowsky (1981) Ceprano (1981) Chall 1989) Ehri (1991) Ehri & Wilce (1985) Herman (1985) Juel (1988) Juel, Griffith, & Gough (1986) Lesgold, Resnick & Hammond (1985) Snow, Burns, & Griffin (1998) Stanovich (1985, 1991) Vellutino & Denckla (1991)	• Assessing word knowledge with the word tests • Building a repertoire of known words in reading. • Building a known repertoire of more than 40 different words in writing. • Reading known and new words daily within texts. • Writing known and new words daily in texts. • Making and remaking words with magnetic letters. • Taking words to fluent production in writing. • Making words using phonemic strategies. • Making new words by analogy with known words.
4) Phonics/ Decoding Skills	Adams (1990) Anderson, Hiebert, Scott, & Wilkinson (1984) Barr & Dreeben (1983) Bradley & Bryant (1983) Daneman (1991) Ehri (1991) Gough & Hillinger (1980) Gough & Juel (1991) Hohn & Ehri (1983) Johnson & Bauman (1984) Juel (1991) Juel, Griffith, & Gough (1985) Mason (1980) Pressley (1998) Snow, Burns, & Griffin (1998) Vellutino & Denckla (1991) Trieman (1992)	• Assessing phonics/ decoding skills with the Word Test, Hearing and Recording Sounds in Words, and Text Reading (error analysis) • Making and breaking words with magnetic letters. • Using magnetic letters to build words using parts. • Taking words apart while reading. • Constructing words while writing. • Conducting left-to-right analyses of words.

5) Phonics/ Structural Analysis	Adams (1990) Allington & Fleming (1978) Anderson, Hiebert, Scott, & Wilkinson (1984) Barr & Dreeben (1983) Daneman (1991) Ehri (1991) Ehri & McCormick (1998) Gough (1983) Gough & Hillinger (1980) Johnson & Baumann (1984) Juel (1991) Mason (1980) Pressley (1998) Snow, Burns, & Griffin (1998) Stanovich (1991; 1993-94) Stanovich & West (1981) Treiman (1992) Vellutino & Denckla (1991)	• Assessing phonics/ decoding skills daily on error analysis in reading. • Making and breaking words with magnetic letters—more sophisticated analyses. • Using magnetic letters to build words, including substituting consonants and vowels, adding endings and prefixes, and other analyses. • Using the white board during reading to explicitly teach word analysis. • Analyzing words on a practice page while writing messages and stories.
6) Fluency and Automaticity	Schreiber (1991) Snow, Burns, & Griffin (1998) Snyder & Traver (1987) Stahl, Heubach, & Crammond (1997) Torgeson (1986) Torgeson, Wagner, & Rashotte (1997) Zutell & Rasinski (1991)	• Rereading familiar texts to gain ease and fluency. • Hearing explicit demonstrations of phrasing in fluent reading. • Using specific prompting for phrasing in fluent reading. • Using techniques such as masking the text to make the eyes move ahead. • Encouraging flexibility once control is established.
7) Comprehension	Lyon (1998) Lyon & Moats (1997) Pressley (1998) Snow, Burns, & Griffin (1998)	• Emphasizing meaning consistently and strongly. • Using language and learning conversations to support and assess comprehension.

		• Prompting explicitly to help the child search for and use meaning during reading. • Prompting and supporting children's construction of meaning during reading and writing.
8) Balanced, Structured Approach	Adams (1990) Fletcher & Lyon (1998) Lyon & Moats (1997) Pressley, Wharton-McDonald & Rowe (1995)	• Providing daily, highly organized, structured lessons. • Daily taking and analyzing text reading to monitor the formation of a flexible use of different approaches to problems. • Providing lessons with a range of reading, writing and word study components. • Making connections between lesson components. • Explicitly prompting students to use skills across lesson components.
9) Early Intervention	Snow, Burns, & Griffin (1998) Torgeson (1998) Pinnell (1997)	• Assessing students for literacy understandings after one year of school. • Intervening early to prevent reading difficulties. • Turning the problems around in the minimum time.
10) Individual Tutoring by Skilled Teacher	Slavin (1989) Slavin, Karweit, & Madden (1989) Snow, Burns, & Griffin (1999) Pinnell (1997)	• Providing one-on-one instruction from certified teacher. • Providing intensive, high quality, ongoing teacher training.

The findings of all research must be interpreted with caution; always more investigation is needed. Lyon cautions against simplistic interpretations:

> The tendency to interpret the NICHD research, often in the name of "science," as supporting phonics instruction as a panacea for literacy problems is particularly disturbing. For example, materials distributed by the National Right to Read Foundation as well as a report that purports to summarize NICHD research (Center for the Future of Teaching and Learning, 1996 [Grossen, B.]), exaggerate the findings of these studies, especially the extent to which the intervention results support the instructional recommendations in the reports. NICHD researchers have used a variety of phonics techniques, often as part of a comprehensive approach to intervention. No NICHD data support a single approach to phonics, much less a specific sequence, number, or set of rules that must be learned, or an essential role for decontextualized drills. We lament the reliance on ideology and invective as opposed to the more difficult task of completing the research that will help educators and policy makers implement effective reading practices. No simple, single message can be obtained from the NICHD research (Fletcher & Lyon, 1998).

It is the responsibility of all literacy educators to continue to investigate promising approaches and their effects for different learners. After all, the children who are having extreme difficulty exhibit great diversity among themselves. Reading is a complex process, requiring the integration of many kinds of information. Children who are having extreme difficulty require skilled teaching based on detailed information about the strate-

gies they *do know* and providing the individual attention and teacher time needed to help them integrate many behaviors.

According to Clay: "Teachers must be observant of individuals' responses and of individual progress. They must be aware of the alternate learning sequences which can lead to progress, and they must know when progress is not occurring" (Clay, 1993b, p. 6). The leaders of NICHD have recognized the complexity of learning to read as well as the challenge to provide robust instructional approaches that will have maximum potential to help children.

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