

Acceleration: The Key to Reading Recovery Benefits

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When Reading Recovery first came to a school system in our region, an impressive-looking 6-year-old named Adam unwittingly became our first ambassador. Adam had driven his kindergarten teachers to distraction through misbehavior, stubbornness, and lack of learning progress. Were it not for the prospect of Reading Recovery (and perhaps his height), Adam would have been retained in kindergarten. But as he progressed in Reading Recovery, Adam's behavior changed dramatically. He discovered that he could read and write; he discovered he could learn and that he liked to learn; and he discovered that he loved to read. He carried books everywhere and was glad of an excuse to read to anyone. When administrators came to visit, they were delighted to listen to this bright-eyed, eager young lad reading stories he enjoyed; they would also hear from his teachers about the dramatic change in his

learning progress and his personality. Adam indeed played a very important part in opening the administrators' eyes to what Reading Recovery can do.

Reading Recovery has been full of surprises like Adam (Clay, 1991). It has produced amazing changes in literacy development and even in school adjustment of hundreds of thousands of young children who struggle with the challenges of learning to read and write. Key to the dramatic improvement that Reading Recovery children typically make is actually changing the paths of learning progress they exhibit—that is, intervening powerfully, child by child, to transform a pattern of very slow progress into a learning progress more rapid than many of their peers, thus catching them up to their classmates. This ability to accelerate the learning of the majority of children served is what

makes Reading Recovery not only an extremely valuable program, but also an economical one.

Acceleration is at the heart of what we do in Reading Recovery: enabling children to actually move faster in literacy development in order to catch up with their peers. But, Reading Recovery's capacity to produce accelerated learning is not always well understood and appreciated, thus making it difficult to see the difference between acceleration and remediation and the critical importance of teaching one-to-one with intensively trained teachers. Even people who see and appreciate accelerative teaching do not always understand why it is successful. Some think it is the teaching procedures alone that account for Reading Recovery's results. Perhaps this is the reason that many have sought to replicate those results by introducing Reading Recovery procedures into classrooms or small groups. Still others have ascribed the impressive learning gains of Reading Recovery children to the one-to-one nature of the tutoring and have suggested using paraprofessionals or volunteers with these children to increase numbers served. Neither the teaching procedures or the one-to-one tutoring alone explain the accelerative learning gains



All Reading Recovery professionals teach children as part of their professional requirements. Here, author Noel Jones works with one of his 2002 students to help him achieve the accelerated learning necessary in order to catch up with his peers.



Reading Recovery teachers find it challenging to learn Guidebook procedures to help them teach in ways that result in accelerated learning.

that the majority of Reading Recovery children achieve and that teachers expect each child to make while in the program.

The concept of acceleration and its implications are essential to a full understanding of Reading Recovery as a system of intervention and prevention to reduce learning difficulties in school systems. Accelerated learning underlies the difference between Reading Recovery and remedial programs, and it is an important part of the explanation for both short-term and longer-term performance of children served by Reading Recovery.

Acceleration is important in comprehending Reading Recovery's design, standards, and procedures and the rationales for this design. Acceleration also helps to explain the economy of Reading Recovery when its costs are balanced against its benefits.

In this article, I will explore the concept of acceleration from four perspectives. First, I will describe acceleration in terms of learning performance and illustrate it through analo-

gies. Second, I will discuss teaching and implementation factors that seem to account for acceleration. Third, I will make a beginning attempt to explain acceleration as a learning phenomenon. Finally, I will explore implications of accelerated learning in terms of the economic and social benefits to learners, schools, and school systems. By sharing these ideas, my hope is that as Reading Recovery professionals, we can better communicate to others what makes Reading Recovery a unique and powerful literacy intervention.

What Acceleration Looks Like

Acceleration means that a child learns at a faster rate than many of the children within the grade and age cohort. Acceleration is a catching-up process; however, for reasons that will be presented and discussed later, acceleration also appears to be a limited-time phenomenon—something that reflects a change in learning processes, in this case related to literacy acquisition. Children entering Reading Recovery are first-grade children who are on a

trajectory of progress predictive of reading failure. They are not learning to read and write within the classroom context, or they are learning so slowly that they are significantly behind their age-mates and appear incapable of performing according to grade-level and age-level expectations. As acceleration occurs, these children begin to participate in classroom learning activities; if grouping is used, they are often moved from low-performing groups to higher-performing groups within the class.

Acceleration has been compared to a race in which runners start in different positions, with some already well ahead, a large group clustered in the center, and several runners at various distances well behind the rest. In this useful but imperfect comparison, acceleration occurs as most of those at the back begin to gain ground on those at the center of the pack until they have caught up and maintain that pace.

Signs of acceleration are usually seen during Reading Recovery lessons before they begin to appear in the classroom. The child begins to show the Reading Recovery teacher new things that have been learned in the classroom or in other contexts. The child needs fewer reviews and repetitions in order to acquire new words in reading and in writing. Self-regulation and self-confidence are noticeably enhanced. The child initiates more searching behavior independently and shows determination to solve problems in reading and in writing without teacher assistance. The child begins to draw upon analogies and to comment on relationships between words seen in reading and in writing, between ideas and words in different books, and among examples used in

the word study and other portions of the lesson.

The difference between acceleration and the slower, albeit steady, learning progress that can occur during remediation can be understood by comparing Reading Recovery with the results of a published study describing a different intervention (Morris, Tyner, & Perney, 2000). This intervention was modeled after Reading Recovery but differed in three important ways: it included a predetermined sequence of phonics and word learning objectives, it involved less than one-fifth of the time devoted to teacher training in Reading Recovery, and it excluded some low-performing children from the treatment. The stated purpose of the study was to show that results comparable to Reading Recovery can be achieved with considerably less teacher training and with the addition of a sequenced phonics and word teaching curriculum. In the study, 22 teachers taught 43 children individually over the course of an entire year. As part of their teaching assignment, some taught four children daily, some taught two children, and some (who were classroom teachers) taught only one child per day. Results for the treatment group were significantly better than for a control group. However, at the end of the year, 32 of these 43 children (74%) were reading only at a primer level, and just 11 of 43 (26%) were reading at end-of-first-grade level or above. This progress of less than a year's growth from teaching over an entire year would have pro-

duced little change for most of these children in their relative standing within their age and class group.

In comparison to Reading Recovery, several contrasts stand out:

- Reading Recovery's intervention is of shorter duration—the majority of children learn at an accelerated rate for a limited amount of time, achieving more than a year's growth (as measured on graduated text reading selections) in a period of 12 to 20 weeks;
- teachers are expected to serve at least two rounds of children per year—which means that in their half-time teaching position teaching four children per day, Reading Recovery teachers average better than eight children per year;¹
- Reading Recovery selects the lowest-performing children to be served without exclusion;²
- in order to be considered successful (successfully discontinued from the program), children served in both first and second rounds are expected to be reading at end-of-first-grade level or better by year's end. Reading at primer level at the end of Grade 1 would not be considered acceptable progress.

The line graph on page 4 illustrates the fact that first-round Reading

Recovery discontinued students actually make up ground on their peers by mid-year. After they leave Reading Recovery they continue to learn so that they are at the same text reading level as average-progress students by the end of the year. The dotted line on the graph projects the progress of a theoretical group of children who begin the year at a low level (like the second-round discontinued children) but never benefit from Reading Recovery instruction. The difference between that projected text reading level at the end of the year and the achieved reading level of Reading Recovery students who discontinue is 8 to 10 text reading levels. This is the Reading Recovery treatment effect.

The explanation on pages 4 and 5, contributed by Francisco Gómez-Bellengé, director of the National Data Evaluation Center, presents a detailed explanation of the data, including a discussion of its limitations.

Not all Reading Recovery children achieve acceleration within the time frames depicted. The children who do not accelerate fall into two categories: those who have had opportunity for a full 20 weeks of service and have been recommended for further assessment and referral and those who have not had sufficient time in the program (usually at the end of the year). What the graph does illustrate, however, is the necessity of dramatically changing the trajectory of progress of the lowest-performing children to catch up when the achievement gap between

¹ A small minority of Reading Recovery teachers teach more than four children per day, and a very few receive one-year exemptions to teach fewer than four per day.

² Whether the number of children excluded from the Morris et al. study was sufficient to affect comparisons is not clear, because the data are not reported. However, these exclusions reflect a difference in attitudes. The fact that children were deliberately omitted suggests that the researchers did not believe these children could become successful learners. Reading Recovery takes the opposite view: all children can become successful learners until a strong intervention suggests that something more may be needed.

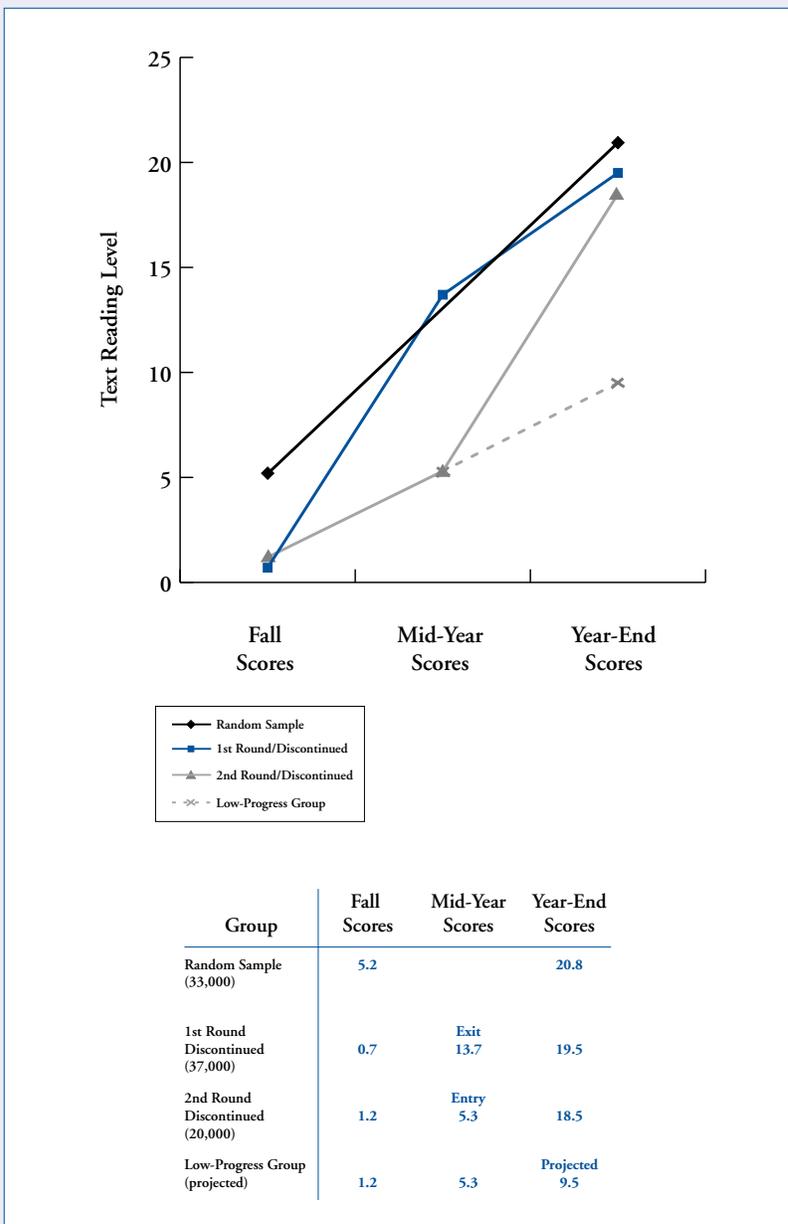
learners is the smallest it will ever be. (The gap will be smallest in the first-grade year. Just think how wide it becomes by the end of Grades 3 or 4!)

Another benefit of the accelerated learning fostered by Reading Recovery, which has not been replicated by other programs, is that the children who are judged successfully

discontinued (those who have accelerated their learning) are on their way to acquiring a self-extending system for literacy learning so that they improve as readers and writers each

2001–2002 Acceleration in Reading Recovery

Francisco Gómez-Bellengé, National Data Evaluation Center



Data from the National Data Evaluation Center provides a strong graphic representation of acceleration in Reading Recovery. This chart tracks the progress on text reading levels from fall to spring for four groups of students during the 2001–2002 school year. The first three groups are actual students, and the fourth group, the low-progress group, is projected from the data.

Random Sample Group: Each year the National Data Evaluation Center collects data for a random sample of students in order to gauge the outcomes of Reading Recovery students against a reference group. During the 2001–2002 year, about 33,000 first graders were in the random sample group. This group represents the top 80–90% of readers. For the 2001–2002 school year, data for this group were collected in fall and spring, not at mid-year. In fall, their average text reading level was 5.2, and in spring it was 20.8. In the graph, the solid black line represents the progress of the random sample group.

First-Round Discontinued Students: Students served by Reading Recovery in the first round of instruction are the lowest readers in their class. Data in the blue line of the graph show the approximately 37,000 first-round Reading Recovery students who

Source: National Data Evaluation Center

time they are meaningfully engaged in literacy activities. Reading Recovery teachers also develop a learning system and improve their teaching as they gain more experience with Reading

Recovery children (whereas the Morris et al. study gives evidence suggesting that the ability to train teachers did not generalize to new groups when the original researcher was not

involved). This comparison suggests that self-regulation and a self-extending system are related to acceleration, a point that will be discussed in the next section.

discontinued at mid-year. Their average text reading level in fall was only .7. By the time they exited at mid-year, their average level was 13.7. First-round children who successfully complete their lessons, typically around mid-year, evidence accelerated progress while in Reading Recovery relative to the random sample (average progress) group. They also show continued progress in the approximately four months between exit and year-end, ending the year at essentially the same text reading level as the random sample (average progress) group. Their average year-end score was 19.5.

Second-Round Discontinued

Students: The gray line for the graph is based on approximately 20,000 second-round students who discontinued in spring 2002. Children served in the second round were slightly better off, on average, than first-round children because they began in fall with a text reading level of 1.2. By mid-year, the second-round group entered Reading Recovery with an average text reading level of 5.3, finishing in spring at 18.5 on average.

Children served in the second round made slow progress between fall and mid-year, in spite of the fact that about 26% receive some other form of literacy intervention before Reading Recovery. The acceleration of

these children relative to the random sample (average progress) group occurs between mid-year and year-end. This groups ends the year within one text reading level of the first-round discontinued children and the random sample (average progress) group. For these children, the Reading Recovery treatment effect is dramatic because one can see what happens to them both before and during the intervention.

Low-Progress Group: Progress for a theoretical low-progress group can be projected from existing data.

Children served in the second round receive no Reading Recovery treatment between fall and mid-year. Their progress curve can be plotted at the same linear rate until year-end to project what a group of low readers would look like by the end of first grade if they did not receive Reading Recovery services. Since 26% of all children who discontinued received another form of literacy instruction before being served by Reading Recovery, this low-progress group represents likely progress of low readers who did not receive Reading Recovery services but may have received some form of supplementary literacy instruction.

Projecting progress for second-round children had they not been served in the second round yields a year-end text reading level of 9.5, assuming

linear growth. This assumption is probably not entirely valid, due to the nonlinear nature of text reading levels; the year-end level would probably be lower for this group. The treatment effect can be said to approximate the difference between the year-end average text reading level for the second-round discontinued group (18.5) and the low-progress group (9.5). Rounding each average to the nearest text level (18 and 10, respectively), this represents an estimated treatment effect of 8 text levels at minimum.

Limitations to the Analysis: There are two main limitations to this analysis. The first is that text reading level is not an equal interval scale. The second is that the mid-year time is not exact; it varies for every child. In spite of these limitations, the difference at year-end between the low-progress group and the two Reading Recovery groups is a powerful visual representation of acceleration resulting from the Reading Recovery treatment effect. Although the children who discontinued were not quite at the level of the random sample (average progress) group, they are close enough to be, on aggregate, average readers and thus benefit from classroom instruction. The same could not be said for the low-progress group, who would be at least eight text levels behind the random sample (average progress) group.

Based upon a database of more than a million Reading Recovery children served in the United States since 1984, accelerated learning progress has been demonstrated consistently by 80% of the children who have had opportunity for a full program and by 60% of all children who have received any tuition whatsoever in Reading Recovery (Reading Recovery Council of North America [RRCNA], 2002). These are facts that we as Reading Recovery professionals can cite as we explain the success of Reading Recovery to others.

Factors Affecting Acceleration

Marie Clay discusses acceleration in *Reading Recovery: A Guidebook for Teachers in Training* (1993), mentioning several specific factors that affect acceleration in learning. These include

- one-to-one teaching,
- teaching that starts with the child's strengths—what the child already knows,
- integrating reading and writing,
- a high level of engagement in reading and writing continuous, meaningful texts,
- the teacher's ability to "select the clearest, easiest, most memorable examples with which to establish a new response, skill, principle, or procedure,"
- the teacher's ability "to design a superbly sequenced programme determined by the child's performance" (pp. 9–11).

Reading Recovery teachers find it challenging to learn *Guidebook* procedures to help them teach in ways that



Author Noel Jones facilitates a behind-the-glass session. Acceleration happens because Reading Recovery teachers and teacher leaders are trained to have a deep-level understanding of reading and writing processes and of possible sequences in learning how to read and write.

result in accelerated learning (Jones, 1991). The *Guidebook* does not provide specific sequences or a fixed set of procedures; the instructional guidelines and descriptions of procedures are intentionally stated in a general way because the kinds of decisions made for each child must be different in content, timing, amount of repetition, and intensity. The teacher's decisions have to take into account where each child is in the program, what the child is now capable of doing, and what the child is beginning to notice and control. Perhaps even more important, these children, the very hardest to teach, are very different from one another in strengths, in needs, in profiles of performance, in experiences, in interests, in emotional makeup—in most everything except their status as low-progress literacy learners. Therefore, the procedures represented in the *Guidebook* exist not as a manual but as a guide for uncovering and solving learning difficulties and developing individual programs for very specific children.

Successfully applying Reading Recovery methodology can be compared to the task of guiding and propelling a boat along a swift current with rocks on one side, shoals on the other, and unseen snags underneath. It is very easy to go wrong in many different directions! On the one hand, the *Guidebook* tells teachers to think about acceleration from the beginning of a child's program. On the other hand, it tells them they cannot produce or induce acceleration—it is the child who accelerates. Teachers learn that a child needs to establish a repertoire of words early that the child can read and write. But they are also warned that "when the teacher becomes involved in teaching for detail, the principle of acceleration is seriously threatened" (Clay, 1993, pp. 9–10). Self-regulation and independence are the goals of Reading Recovery teaching; however, judiciously timed teacher support is a critical factor in a child's learning progress. Balancing these needs and

avoiding mistakes makes Reading Recovery teaching (and especially learning to be a Reading Recovery teacher) a very challenging but interesting adventure!

Clay mentions two other factors that contribute greatly to the ability to foster accelerated learning in children. The first factor concerns teacher knowledge. Teachers must learn even more than they have known as classroom teachers about the ways in which reading skill develops, about possible teaching sequences, and about permissible shortcuts. Second, teachers need to have available a set of materials that represent a graduated sequence of difficulty through which they can move their students, and teachers must understand the materials, the difficulties that each book might present to particular children, and how to select and use each book to best advantage for individual students (1993, pp. 7–11).

In short, all of Reading Recovery teaching is focused toward both acceleration and thoroughness in learning, but these goals are not easy to achieve. This is one of the reasons that teachers are required to teach four children daily and to teach two rounds of children per year—a minimum of eight children over a school year.³ This amount of experience seems to be necessary in order for a teacher to learn how to make, and continue to make, instructional decisions for each individual child based upon careful, sensitive observation, responsive to that child's emerging awareness of many aspects of reading and writing.

Explaining Acceleration

In addition to age and grade level (Reading Recovery children are first graders 6 to 7 years old), two things can be said about all Reading Recovery children. One is that they are a very diverse group, and the second is that they enter Reading Recovery as inefficient literacy learners. Reading Recovery achieves acceleration for most children in spite of their wide differences and inefficiencies!

Differences among Reading Recovery children arise from a large number of factors and from different combinations of these factors. Some children lack strength in almost all areas important to literacy processing, some lack strength in certain areas but show a degree of strength in others, and some (especially many children seen during the second round) have a fair amount of strength in most of what would be considered the sub-skills of reading but have not learned how to use their item knowledge or skill knowledge as part of an integrated processing system. Moreover, the differences among children are not just quantitative; they often involve misconceptions about print or about what it means to read, incomplete development in key areas of processing, inadequate prior learning, habituated avoidance strategies, poor commitment to learning (perhaps due to lack of models), physical factors, learning styles or propensities, language structures and awareness, uses of language, and numerous other possibilities, many of which have not been well documented.

Successfully applying Reading Recovery methodology can be compared to the task of guiding and propelling a boat along a swift current with rocks on one side, shoals on the other, and unseen snags underneath. It is very easy to go wrong in many different directions!

Ineffective learning can be explained partially in terms of these many factors that help to define differences among Reading Recovery children. But the need to *learn how to learn* goes beyond the problem of overcoming causal factors or untangling confusions. One explanation of how adults or older students learn how to learn has focused on the difference between rote learning and meaningful learning. Rote learning can be defined as memorized verbal information (such as memorized dates, facts, poetry, or rule statements) or as the learning of routines; i.e., learning that is specifically tied to a single context and that does not transfer to other situations (Ausubel, Novak, & Hanesian, 1978; Gowin & Novak, 1984). A somewhat different explanation of difficulties in learning might be based upon the learning categories of Gagne and Briggs (1979): verbal information, discriminations, concepts, problem solving, and cognitive strategies. For

³ Teachers-in-training teach four children daily in a .5 full-time equivalent (FTE) position and two rounds of children per year. Experienced teachers in schools working toward full implementation teach a minimum of four children daily in a .5 FTE and serve two to three rounds per year; however, these teaching loads may be higher (or under special circumstances, lower) than four daily slots.

adults, new content and new areas of experience may cause problems for any of these types of learning. For example, learning how to discriminate between varieties of needle-leaf trees may be as difficult for an adult beginning to study botany as learning to discriminate letter forms may be for a kindergarten child. Learning concepts or problem-solving strategies in a new field of study can be very challenging as well. When faced with such difficulties, learners often feel confused and overwhelmed and may resort to memorization of verbal definitions or to hopeful guessing (Gagne & Briggs, 1979). Children's difficulties in learning how to learn may be similar to those described for adults; however, adults usually have the advantage of previous successful learning on other topics and in other contexts. The struggling young learners who enter Reading Recovery, on the other hand, have had very limited experience learning new discriminations, concepts, problem-solving strategies, and cognitive strategies through the mediation of language or through the agency of others, especially persons who are not their primary caregivers.

Much less is known or has been written about young children's problems in learning how to learn than is known or written about adults.

Nevertheless, the experience of Reading Recovery professionals seems to indicate that learning how to become an effective literacy learner involves different things for different individuals. Some children overrely on a single source of information as they try to read. For example, some overrely on language and a sense of meaning and invent stories from the pictures with little regard for print. Others get so bogged down with letters and the

sounds associated with them that they utter isolated sounds when attempting to solve new words and cannot succeed in creating coherent, meaningful language as they read. Some children have great difficulty using language as a mediator for learning; they have to be shown, not told, and they need opportunities to manipulate letters, words, and sounds in addition to reading and writing connected texts. Other children seem to learn items of information as rote learning, seeing little connection to similar words or to the stories and print to which they are exposed. Many other children are victims of inappropriate concepts formed during group instruction which failed to take their prior notions into account or which inadvertently produced misconceptions. Some children have never been read to or have never observed literacy in use and just don't understand what the learning enterprise is all about. In learning to write, children may persist in relying on primitive strategies, such as putting letters together randomly, far past their usefulness. This preliminary list of the kinds of learning inefficiencies encountered in children entering Reading Recovery must of necessity be incomplete, because new variations on these and other themes are encountered almost daily.

One aspect of becoming an effective learner, however, seems to be necessary for the accelerated learning observed in Reading Recovery children. This has been variously referred to as self-regulation (Diaz, Neal, & Amaya-Williams, 1990), the acquisition of strategies (Clay, 1991), the assembly of working systems (Clay, 2001), or the construction of knowledge (Moll, 1990). A child who is self-regulated reads for meaning and purpose, independently searches for

and evaluates information in the acts of problem-solving during reading, and applies analogical thinking and other strategies to communicate in writing. Furthermore, the self-regulated child begins to learn and then extends that learning through these problem-solving experiences. In contrast, a child who is other-regulated and trained to perform routines—even though these routines appear to be very strategic—will usually be much more limited in extending learning capability into new domains or to new challenges. An example is a child who rereads rather mechanically and purposelessly, and sometimes repetitively, when meeting difficulty in a text. Such a child has acquired a behavior under the influence of teaching, rather than having a self-regulated, self-initiated strategy. Teaching in ways that foster self-regulation and acceleration is quite challenging because it involves much more than encouraging independence. Skillful teaching interaction is essential, but in these interactions the teacher must avoid the dangers of overregulation and overdirection.

In summary, I have proposed a view that all children who struggle with literacy are inefficient literacy learners (though some may learn quite satisfactorily in other domains), that the causes and patterns of learning difficulty differ from child to child, and that acceleration in learning can occur when a skillful teacher is able to determine a particular child's strengths and specific impediments to learning and engages the child in a sequence of learning experiences that allow that child to learn how to learn.

The Reading Recovery approach to instruction is complex and difficult to classify. It has been praised by many

instructional designers and special educators because it does include many of the characteristics of a direct instruction approach such as positive feedback, careful demonstration, repetition to the point of mastery, massive practice to develop automaticity, instructional decisions based upon close observation, and regular collection of performance data. On the other hand, Reading Recovery's guidelines for teaching have more frequently been classified as constructivist. Clay (2001) talks about the child as the agent of learning—as a learner who uses a repertoire of strategies for problem-solving and, through problem-solving applied to literacy tasks, continues to expand literacy capabilities as the child engages in meaningful reading and writing experiences.

Truth resides in both positions; however, two important differences emerge in comparing the theoretical ideas of Clay to the ideas of others who offer solutions to the reading problems of at-risk learners. First, Clay recognizes the wide range of differences among learners, particularly those learners having difficulty as they begin the task of learning to become literate (1998). She eschews group treatments that assume that a single causal variable, such as phonemic awareness, is the explanation of learning difficulties among the lowest-performing students. Second, although Clay is a constructivist in the sense that she believes that it is the learner who learns, she also recognizes that a great deal of instructional support and scaffolding (without creating dependence) will often be needed in order to allow the inefficient beginning learner to become an efficient, independent learner. For many children, school and life conditions have resulted in the persistence of inefficient and counter-



Reading Recovery students are very different from one another—in strengths, in needs, in profiles of performance, in experiences, in interests, in emotional makeup—in most everything except their status as low-progress literacy learners.

productive approaches to learning; however, Reading Recovery has demonstrated that it is possible to break this pattern of slow learning progress.

Clay's concept of a self-extending system (1991) is relevant to the premise I have developed about learning how to learn. Although Clay sometimes talks about the establishment of a self-extending system as the long-term objective of Reading Recovery tuition, she has also discussed it as the instructional means—as the kind of daily processing and engagement that will lead to the long-term goal. For example, in a general discussion of learning principles, she writes

Plan to encourage a self-extending system and reinforce this:

- Give the child ways to detect error for himself.
- Encourage attempts to correct error.
- Give him clues to aid self-correction.

- Allow him to make checks or repetitions so he can confirm his first attempts.
- When he works out a word or text for himself, help him to know how he did it. Ask him, 'How did you know?' (1993, p. 15).

In this brief introduction to instructional principles, the term *self-extending system* emphasizes the role of the child in learning. In referring to a self-extending system as a goal of Reading Recovery teaching, Clay seems to be emphasizing the self-sufficient nature of the system once it is well underway—which may occur even after Reading Recovery teaching has been discontinued.

Clay recognizes the importance both of the child's role and the adult's role in learning (especially for children having difficulty with learning in certain areas). She has compared skillful teaching and learning to a two-way conversation in which the contributions of both parties are essential.

Acceleration explains the claim that Reading Recovery is economical. Because Reading Recovery helps at-risk children build an efficient learning system, it can be a short-term intervention.

These contributions are not just verbal exchanges; they include each party's prior knowledge and experience, awareness of what the other knows, language competence, thought processes, utterances, perception of utterances, nonverbal responses, and much more. Some contributions may not even be understood at the time because they involve complex, in-the-head processing that we may only be beginning to infer! The complexity and power of this interaction between a teacher and child while the child is largely engaged in reading and writing continuous texts justifies the individual nature of Reading Recovery tutoring.

An explanation of acceleration as a period during which children learn how to learn much more effectively seems to fit with the patterns of behaviors observed in Reading Recovery. It also seems to account for the limited-time nature of acceleration in literacy learning. Once effective learning strategies have been established, the child has achieved a certain measure of equality with those children who have had such a system in place from the start. Reading Recovery children have made up a lot of ground (at even a faster pace than many average children in the class),

but any further advantage is dependent upon idiosyncratic factors and conditions. Continued tutoring past the point of developing a self-extending system might result in further changes in a child's relative standing among peers, but it is my belief that striving to achieve such changes would not continue to be economical.

This interpretation of acceleration as dependent upon learning how to learn is also consistent with the observation of many Reading Recovery teachers that waiting too long to intervene makes it more difficult to get accelerated learning underway. The explanation here is that children have more unlearning to do, that older misconceptions and habits have become more firmly established, and the task of changing patterns of inefficient learning is more daunting.

The issue of how long a period of accelerated learning might last has not actually been resolved. In the process of establishing an effective learning system, a child makes up ground rather quickly, catching up with classroom peers. At some point, the child is able to profit from classroom instruction and maintain, without continued tutoring, a learning pace not significantly different from that of age-mates. Although the child might continue to benefit from individual Reading Recovery service and perhaps make progress at a somewhat faster or steadier pace than untutored peers, it now becomes uneconomical to continue one-to-one tutoring.

The difficult task of determining when the time has come to discontinue service for each individual child is made professionally and collaboratively by the Reading Recovery teacher, the teacher leader, and the classroom teacher. School and site level data are

also studied carefully to review and validate the decision making. Reading Recovery data collected on hundreds of thousands of children demonstrate that children do continue to make appropriate learning progress following discontinuance, though continued monitoring of this progress through monthly consultations or booster sessions provide a healthy kind of insurance and support for some children. The program standard of two rounds of children per teacher and the guideline for terminating service to first-round children and evaluating them after 20 weeks of tutoring are based upon what is known about accelerated learning. Special research studies (Clay, 1982, 1991, 1993) and data routinely collected on all Reading Recovery students provide the basis of informed estimates of the most economical policies and standards.

Implications of Acceleration

Several implications of this concept of induced accelerative learning need to be emphasized. First, acceleration explains the claim that Reading Recovery is economical. Because Reading Recovery helps at-risk children build an efficient learning system, it can be a short-term intervention. Clay's research suggests that for the majority of Reading Recovery children, a sufficient degree of learning efficiency will be established within a period of 20 weeks of skillful tutoring (summarized in Clay, 1993; Clay & Tuck, 1991). Continuing the intervention beyond that time may work for a few children, but in the main it appears to be uneconomical to continue beyond that point. Clay explains that if accelerated learning is not achieved within 20 weeks, either learning issues may be present that require specialist attention and the

child needs to be referred for further assessment, or the chances that this child will start to make accelerated learning process under the same teaching and learning regimen are very slim. Continuing the same program beyond 20 weeks would be uneconomical. Only a serious change in intensity and approach might succeed in changing these prospects, requiring a greater investment of analysis and collaboration with specialists than most Reading Recovery teachers are able to contribute in their school settings.

Another reason Reading Recovery is economical is that it is preventive; it establishes an effective learning system for early literacy that gives the child a tool to use to help overcome literacy learning hurdles in the future. Clay reinforces this point and then goes on to qualify the conditions for future success:

When an early intervention builds effective reading and writing processing systems that can handle texts of different kinds, . . . then that early intervention provides the learner with the potential for subsequent successful progress. Whether that potential is realised depends upon whether the early intervention program has prepared the learner sufficiently well to engage with instruction several years later on, or whether, alternatively, the subsequent classroom instruction has been good enough to allow the reader to build upon the foundation laid by the intervention (2001, p. 216).

The prediction is that on average, Reading Recovery graduates will continue to do well in school in future

years, and longitudinal data collected from a number of sites seems to bear this out (Askew et al., 2002; Brown, Denton, Kelly, & Neal, 1999; Hovest & Day, 1997; Schmitt & Gregory, 2001).

A second implication concerns the difficulty of attaining accelerated learning. Acceleration does not happen just because the child is receiving one-to-one instruction; it does not happen because the teacher knows a set of procedures. Acceleration happens because a Reading Recovery teacher is trained to have a deep-level understanding of reading and writing processes and of possible sequences in learning how to read and write. But even that is not enough; the teacher must also be able to observe and analyze each child during learning episodes, gauge appropriate learning experiences for that child, make instructional moves contingent upon what that child appears to be noticing about language and print and about relationships between and among letters and words and punctuation, and much more. And, if the child appears to be especially hard to accelerate, the teacher is urged to observe more closely, to question teaching decisions and interactions, to consult with a peer teacher, to consult with a teacher leader who has additional experience in solving learning difficulties, and then to try out revised approaches and observe carefully what is or is not working (Clay, 1993; Jones, 2001).

Demonstration of the power of analytic Reading Recovery teaching and peer collaboration in serving children can be seen in the work of two New Zealand Reading Recovery tutors. By using the guidelines recommended for all Reading Recovery teachers—although with greater intensity, greater

“When an early intervention builds effective reading and writing processing systems that can handle texts of different kinds, . . . then that early intervention provides the learner with the potential for subsequent successful progress.”

— Marie Clay

depth of analysis, and more collaboration among teachers—they were able to establish accelerated learning for children who had not successfully accelerated their learning during an initial 20-week Reading Recovery intervention (Philips & Smith, 1997). The value of collaboration of this type is clearly recognized in the design of Reading Recovery: one of the roles expected of Reading Recovery teacher leaders is that they will act as consultants to Reading Recovery teachers as they wrestle with issues in teaching those children who present the most perplexing learning challenges.

A third implication of the concept of acceleration concerns the possibility of accelerated learning for all children. Reading Recovery serves the lowest children within an age cohort without exclusions. Referrals for evaluation in terms of exceptionalities should follow, not precede, Reading Recovery service, since many children (who otherwise would be referred) can establish effective learning patterns through the intervention. It has been difficult for many administrators, as

well as many Reading Recovery professionals, to accept and apply the standard of “selecting the lowest performing student at each selection opportunity” (RRCNA, 1998) because it seems logical that the lower the child, the more effort may be needed to allow acceleration to occur. However, this cannot be predicted on the basis of entering scores (Clay, 2001).

In summary, the concept of acceleration—interpreted as an intervention to help inefficient learners learn how to learn in self-regulated and self-sustaining ways—lies at the heart of the design and of the standards and guidelines of Reading Recovery. This design and Reading Recovery standards and guidelines have been established on the basis of thorough, clinical, experimental, and grounded research as well as extensive field trials on more than a million children (Jones & Smith-Burke, 2000; RRCNA, 2002). It is not easy to teach in ways that enable children to achieve accelerated learning, and acceleration is most difficult to achieve by children who present the most daunting challenges. But it is the possibility of succeeding with such children, and thereby dramatically reducing the amount of failure in literacy learning, that makes Reading Recovery such a valuable and, in the long-run, economical intervention system. As Reading Recovery professionals, we need to know how to talk about acceleration—the key to the power of Reading Recovery and to what we do!

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