LEARNING TO READ: INSIGHTS FROM READING RECOVERY

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THE EXPRESSION, LEARNING THE ABCs, HAS COME TO REPRESENT THE SIMPLEST, most basic kind of learning. Yet, first grade teachers know and young children know, that learning about print and learning to read and write are not simple at all. Although many children seem to acquire literacy almost miraculously on their own, that does not mean that the task has been easy for them; their efforts perhaps extending over several years. Other children find reading and writing very difficult, even with the help of excellent teaching.

Even though it is a significant and sometimes arduous accomplishment, most people succeed in learning to read and write when they are still very young. Understanding how literacy develops, however, is extraordinarily more complex. The mental processes involved in literacy and literacy learning are topics that continue to intrigue and perplex the best human minds. Although remarkable advances in knowledge have been achieved, research still does not reveal all we need and want to know about how children learn and why learning is more difficult for some than for others.

Even though our collective understanding is tentative and incomplete, both theorists and teachers form operational theories based on their interpretations of evidence. In the areas of reading and learning to read, theories as well as curriculum recommendations tend to be sharply divided, clustering toward one or the other of two camps.

One group emphasizes meaning, language context, prediction, anticipation, and parsimonious visual sampling in their theories of reading processing, both for children and adults. In terms of teaching practices, these theorists (including whole language advocates) stress immersion in literacy activities pursued for authentic purposes; reading and writing of complete texts; integration of reading and writing; and the importance for teachers of allowing students choice, accepting approximations, and encouraging risk-taking so that children continue to be active discoverers and meaning-makers (Altwerger, Edelsky, & Flores, 1987; Cambourne, 1988; K. Goodman, 1986, 1989; Y. Goodman, 1989; Goodman & Goodman, 1979; Harste, Woodward, & Burke, 1984; Smith, 1985; Watson, 1989; Weaver, 1990).

Another group of theorists stress research evidence suggesting (a) that readers process almost all of the visual information on the page; (b) that fast, automatic word recognition and thorough knowledge of sound-symbol relations separate good from poor readers; and (c) that phonemic awareness plays a significant, causal role in learning to read. These code-emphasis advocates believe that beginning reading instruction should stress development of phonemic awareness, letter knowledge, sound-symbol associations, and rapid word identification (Chall, 1983; Ehri, 1987, 1989; Ehri & Wilce, 1985; Gough & Hillinger, 1980; Juel, Griffith, & Gough, 1986; Just & Carpenter, 1987; Liberman & Liberman, 1990; Stanovich, 1980, 1986). Many of them advocate direct instruction as the most efficient way of fostering these learnings (Chall, 1983; Ehri & Wilce, 1985; Gough & Hillinger, 1980; Liberman & Liberman, 1990).

These controversies over theory and practice of beginning reading produce serious dilemmas for educators. Increasing numbers of teachers are drawn to recommendations for whole language activities and the establishment of classroom literacy environments. Other teachers and many administrators are influenced by the evidence and arguments from code-emphasis writers. Pressed for objective evidence of reading progress, they push for early acquisition of *the code* and frequently for direct instruction on component skills. Policymakers and educators at all levels often feel that almost any curriculum choice they make will subject them to often quite irrational criticism from one or the other of these positions.

In this article, ideas are offered about beginning reading that may be helpful in moving beyond these entrenched positions. These ideas have become personal insights through my experiences in Reading Recovery, a short-term literacy intervention that accelerates the learning of the lowest achieving first grade children so that they progress as successful readers and

writers within the classroom (Clay, 1993b; Pinnell, 1990). Working with Reading Recovery increases understanding of early reading and writing and helps develop new perspectives on both theoretical and practical issues.

Reading Recovery offers a rich source of information concerning the emergence of literacy and literacy processes in young children. This program was based upon and has generated significant longitudinal studies of beginning readers and writers (Clay, 1982, 1991, 1993b; DeFord, Pinnell, Lyons, & Place, 1990). Reading Recovery teachers keep extensive documentation of each child's performance and progress and of their teaching actions and decisions. Standardized report forms are completed for each child for easy generation of local, state, and national reports. Moreover, as teachers work to make their teaching moves contingent upon each child's performance and concepts, they have the opportunity to observe and reflect intently upon each child's functioning and progress in daily, individual lessons. Since everyone involved in Reading Recovery continues to teach children at least some of the time, a vast reservoir of shared understanding of early literacy has developed (Clay, 1993a, 1993b; DeFord, Lyons, & Pinnell, 1991; Lyons, Pinnell, & DeFord, 1993; Pinnell, 1990).

Reading Recovery develops children's abilities in both reading and writing. The aim is to foster strategies in both areas so that the child develops a self-extending system that allows him or her to learn more about reading and writing with every engagement in literacy (Clay, 1991, 1993b; DeFord, 1991). These daily, 30-minute, individual tutoring sessions are short term and supplemental. It is expected that the long term development of literacy, language, and communication processes will occur through classroom programs and other school experiences.

Although reading and writing are integrated in Reading Recovery, the focus of this article is reading. The principles underlying the theory and practice of Reading Recovery are particularly relevant toward understanding the roles of meaning and of print knowledge in early reading. These principles may be useful in moving beyond the meaning-emphasis versus code-emphasis polarization that has plagued both reading theory and reading education. As each principle or insight is discussed, comparisons will be made to key tenets of meaning emphasis (whole language) as well as code-emphasis researchers and educators.

However, a caveat is immediately in order. Treating meaning-emphasis and code-emphasis as distinct, homogeneous, and contrasting belief systems is admittedly an oversimplification in two ways. First, it suggests that all people who tend, for example, to give greater emphasis to meaning think alike and hold similar views on all issues relevant to beginning reading. Second, it may be unfair to the knowledge and beliefs of individuals who may be well aware of the complexity and range of factors influencing early literacy, but whose research has focused on one or the other end of the spectrum from meaning to decoding. These positions, however, exist and are influential far beyond the academic community. The categorizations used here reflect the beliefs of educational practitioners and the lay public, which tend to cast these views in stark and contrasting colors, as well as researchers and scholars of early literacy.

The ideas presented draw heavily on the work of Marie Clay and others in Reading Recovery. However, treating the beliefs of Reading Recovery practitioners as if they were homogeneous is also an oversimplification. The author takes full responsibility for their expression and development of Clay's theories and the *Reading Recovery position* in this article, including any omissions, gaps of logic, or other distortions.

Reading is an extremely complex psycholinguistic, socio-communicative, and cognitive process. Because of the complexity of the mental processing and the number of factors (in the text, the reader's experience, and the context) that may influence the processing, it is almost impossible to study the reading process in entirety. Theorists and researchers have tended to take a particular stance for their investigations, sacrificing breadth of view to obtain depth of

understanding. Many researchers, typically cognitive psychologists, have tended to study reading *diachronically,* motivated by interest in what is going on in the mind of the reader at particular points in time. Other theorists and researchers have investigated reading diachronically, interested in the changing concerns and processes of the reader as he or she initiates a reading activity; becomes absorbed in the text and in thoughts engendered by the text and prior knowledge; rereads to problem-solve; reflects about meanings; and assimilates, communicates, and acts upon ideas stimulated from the experience.

Viewed *synchronically* (at particular points in time), reading is a high-speed, automatic, simultaneous operation of complex linguistic and cognitive processes. At any moment, a reader of any level of proficiency must keep in mind story meaning, sentence meaning, sentence syntax, and some metacognitive awareness of fit, while simultaneously perceiving and identifying words, word-parts, and punctuation marks. Initially, these processes require much more conscious control and problem-solving, but for the mature reader they operate so automatically that they continue without conscious control and often appear effortless. Both code-emphasis and meaning-emphasis advocates agree upon this general characterization of complex processing, though they disagree about the role that anticipation plays and about the amount of visual detail that is processed while reading for meaning. Many cognitive psychologists, especially code-emphasis advocates, have focused their research primarily upon this synchronic view.

One thing that has not been well understood is the relationship between the high-speed, automatic processing of the mature reader and the processing that beginning readers must do. Over the years, both educators and psychologists have tried a number of ways of simplifying reading to make it easy for children to learn. A trend of the 1970s and 1980s had been to break reading into component parts so that students might master sub-skills in a step-wise fashion. This seemingly logical approach changes the nature of the process. It cuts the child off from useful sources of information and prevents him or her from orchestrating cues from several sources as good readers of all ages do. A component skills approach also gives emphasis to memorization, a type of learning which differs considerably from the complex parallel processing and problem-solving involved in reading (Ausubel, Novak, & Hanesian, 1978; Gagne & Briggs, 1974).

Experience with the intense tutoring of Reading Recovery makes it clear that learning component skills or parts is not the same as reading. Many children who have managed to learn almost all letters and sounds and to read and write several words still cannot read the simplest text. To successfully read texts, even beginning readers must divide their attention between meaning and other sources of information and make decisions in the same way that mature readers do, but within their limited repertoire of knowledge. The only way to learn to do this is to engage in reading activities in pursuit of meaning. Although code-emphasis advocates assume that attention to component skills is helpful, Clay points out that focus on acquiring item knowledge may have a negative effect on learning to read, especially for low-progress children: "The child cannot afford to spend much time practicing detail, and he may become addicted to such practice and find it difficult later to take a wider approach to the reading act" (Clay 1993b, p. 10).

Polanyi's notion of focal and subsidiary attention is helpful here (cited in Cazden, 1992, p. 14). Mature readers give focal attention to meaning and subsidiary attention to visual detail, language structure, and other sources of information. There is much that we do not know about how attention is distributed for beginning readers, but Clay's theories and Reading Recovery teaching experience suggest that learning to read is a matter of learning to give focal attention to meaning and subsidiary attention to cue sources of information. For many children this does not happen if the instruction asks the child to give focal attention to print detail and graphophonemic associations (the *code*).

Whole language theorists strongly support the importance of learning to read through reading (Butler & Turbill, 1984; K. Goodman, 1986; Goodman & Goodman, 1979; Harste, Woodward, & Burke, 1984; Holdaway, 1979; Smith, 1985) and some researchers and cognitive psychologists accept this idea as well (Adams, 1990; Gibson & Levin, 1975; Stanovich, 1994). On the other hand, advocates of the study of phonics and component skills in isolation give much less importance to the reading of continuous texts (Gough & Hillinger, 1980; Liberman & Liberman, 1990). Chall, Jacobs, and Baldwin (1990) have specifically recommended direct instruction on the code as the best approach for economically and educationally disadvantaged children. However, the effectiveness of Reading Recovery in accelerating the learning of thousands of children who began as the lowest readers in their classes serves as strong evidence against the need for an emphasis on phonics and word-learning in isolation for either educationally or economically disadvantaged children or for children with limited proficiency in the language of instruction (Clay, 1993b; Escamilla & Andrade, 1992; Pinnell, DeFord, & Lyons, 1988; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994).

In addition to its psycholinguistic complexity at any particular point in time, reading involves a complex processing that changes gradually over time (diachronically) influenced by psychological, linguistic, and social-communicative factors. Stated over-simplistically, any act of reading involves personal choice (emerging from a complex mix of interests, feelings, and ideas), activation of prior knowledge and schemata, engagement with the text, metacognitive control, generation of ideas and emotions, integration with existing knowledge and feelings, and judgment and evaluation. Although there may be cycles of engagement, the interplay of these processes changes as a reading event progresses over time.

Recently, many cognitive theorists and researchers have begun to take these processes into account, investigating the effects of prior knowledge, strategies, the assimilation and utilization of ideas, and with older readers—metacognitive knowledge (Baker & Brown, 1984; Brown, 1980). Other reading researchers have maintained a preoccupation with reading viewed synchronically — trying to unlock the processing in the mind of the reader at particular moments in time. They tend to undervalue this wider, kaleidoscopic view of reading as a communication or literacy event over time. As a result, their advice to practitioners has emphasized processing the code represented by print. Meaning-emphasis advocates, on the other hand, have made a strong contribution to our understanding of reading by bringing the communicative, change-over-time aspects of the reading process into prominent view. In fact, they may be guilty of a preoccupation with this wider, diachronic view of reading, undervaluing the evidence offered by cognitive psychologists from various research paradigms.

Reading Recovery theory and practice recognize the importance of meaning and the socio-communicative context for the emergent and beginning reader. Choice of books for rereading is largely under the child's control and new books are selected for the child with a strong sense of what will appeal to the child as well as what is within his or her capability. The book is introduced to the child so that he or she has a good sense of what it is about and so that paths are cleared for that child to be able to understand and read that book at that particular time. Assistance given during reading is carefully gauged to help the child maintain a focus on meaning and orchestrate cues from all sources (meaning, language syntax and phonology, print, pictures, and prior knowledge); meanwhile, the teacher keeps the task easy enough so that it is enjoyable and rewarding for the child.

Children are Constructors of Their Own Knowledge

It seems illogical that children could learn to read by reading before they know how to read! Adults have rightly assumed that most children need their help; the question is: What kind of

help works best and is most consistent with the notion of children as constructors of their own knowledge? Educators have used a variety of techniques to simplify beginning reading by exercising controls. The basal reader approach controlled the introduction and repetition of words used, for example, in Scott Foresman's *Dick and Jane Pre-primers* of the 1950s (Robinson, Monroe, & Artley, 1956/1962). Another approach has been to arrange for extensive repetition and feedback (e.g., *Programmed Reading*, Buchanan & Sullivan, 1973). A third has been to write texts in words that fit highly constrained patterns (e.g., *SRA Basic Reading Series,* Rassmussen & Goldberg, 1976). Even more extreme are programs such as *Distar* (Bereiter & Engelmann, 1983) which place strict controls on the language and gestures of the teacher, the child's responses, and the sequence of learnings. All of these approaches assume (a) that adults know best the sequence of learnings children must acquire and (b) that adult control over those sequences enhances learning.

Millions of children have learned through systems with built-in controls. But not all children do. In fact, each system produces failures. There is good reason to believe that the more rigid the program and the tighter the control, the higher the failure rate (Allington, 1991; Allington & McGill-Franzen, 1989; Clay, 1991). What seems to happen is that children who come to school with many early literacy experiences learn from highly controlled programs because they can fill in what is missing. Children with meager literacy backgrounds cannot do that. They may learn what the program teaches, which may not be enough; they cannot make sense of the program as presented (perhaps because the developer did not anticipate the difficulty of what is required); or they cannot find any motivation to learn it. Misled by their delayed start in learning and their apparently limited ability to learn through analogy, many people have assumed that the learning styles and needs of low-progress children must be qualitatively different. Yet, Reading Recovery experience tells us that these children, also, must learn by constructing their own knowledge.

Marie Clay (1991) points out the dangers of imposing adult controls on the tasks and materials of beginning reading:

> Attempts to control texts and learning sequences in these ways have probably made the learning task more difficult because important support systems within the language have been left out. Young children can and do learn more about the complex interrelationships within language than such programmes allow.
>
> Does it matter if texts are contrived . . .? For the more able children, perhaps not. They . . . are able to bridge the gaps between what instruction presents them and what they need to learn . . . . When less able children encounter difficulties, the reading programme is not questioned; rather it is the children who are labeled as having difficulties. (p. 187.)

Experiences such as lap reading and shared reading experiences with very young children suggest that such extreme control is unnecessary. With appropriate adult assistance, children can engage in reading and writing real stories even though they are in the very earliest stages of literacy learning. Appropriate assistance might be defined as: only as much as necessary so that the literacy experience can be successful and satisfying. Assistance is also appropriate if it allows the child scope to see relationships, make connections, and gain control at her or his own pace while at the same time fostering risk-taking and forward movement.

In both reading and writing, the Reading Recovery teacher supports a complete literacy experience—from book choice, to anticipation, to detailed processing, to comment upon meaning and enjoyment. What the child cannot do independently, the teacher does for the child, or she or he supplies just enough assistance (using techniques such as task sharing, modeling, prompts, and questions) so that the child can perform successfully (Wood, 1988; Wood, Bruner, &

Ross, 1976). Reading Recovery teachers learn to give support contingent upon what an individual child needs in order to read and write successfully and they learn to achieve a delicate balance between challenge and fluent, successful performance in their tutoring sessions (Clay, 1993b).

Adherents of both code-emphasis and meaning-emphasis positions tend to accept the notion that children construct their own knowledge. It seems likely that theorists from both camps would accept Cazden's (1992) suggestion that the ideal educational interaction involves both an active learner and an active teacher. The difference in their viewpoints hinges on varying interpretations of how the teacher and learner play active roles.

Code-emphasis people are influenced by research in the areas of learning and cognition, and they stress the importance of the child's active engagement during learning tasks. The learning principles they advocate encourage activation of the learner's prior knowledge, manipulation of materials, active exploration of features, opportunities for application, and transfer of learning. They usually make the assumption, however, that adults know best what the child should be learning, as well as the kinds of activities that will make the learning occur. So although they would place the child in an active role within learning tasks, the learning sequences are determined by the teacher or curriculum-makers.

Meaning-emphasis people, on the other hand, especially whole-language advocates, draw their learning paradigm from the literature on child language acquisition. They concede to the learner very considerable control over what is to be learned, the pace of learning, and the learning activities. Student choice is a fundamental tenet of their philosophical position, but their position about the role of the teacher in relation to the child's learning is less clear. The teacher is viewed as a facilitator of literacy activities and as a participant in the communicative cycles of literacy events, but there seems to be considerable ambivalence about how much coaching and intercession a teacher may engage in, almost to the point of believing that less is better.

Reading Recovery takes the position that there is nothing incongruous between, on the one hand, viewing the child as constructor of learning and on the other, adult assistance and intervention. But learning how to play the role of an active teacher without impeding the child's initiative and responsibility for learning is a very difficult process and is a major reason that the professional development of Reading Recovery is so intense and requires so much time. From the time that a child enters the program, teachers work to encourage that child's initiative and independence in learning. Reading Recovery teachers are asked to follow the child (Clay, 1991, 1993b), yet their curricular decisions about what to reinforce or teach are also based upon a developing understanding of Clay's theories of literacy acquisition, bolstered by their experiences teaching many children. Their instructional decisions (how to assist learning) are strongly contingent upon what a particular child knows, is noticing, and is doing at the time the teacher is working with him or her, yet guided by theory and the teacher's decisions about how best to support this child's learning at this time. Thus, Reading Recovery teaching represents a strong example of an active teacher and an active child.

The Focus of Teaching is Strategies

A key assumption of Reading Recovery is that children must acquire and use efficient strategies to get meaning from texts as they read for meaning. Building upon basic notions about directional conventions of print, the match between spoken and printed word-forms, and simple logical relations (e.g., recurrence, identity), children learn to search for and use information of various kinds in texts. Initially, they depend heavily upon cues from their knowledge of oral language structure and upon meaning cues supplied to them through pictures

and the teacher's story introductions. Gradually they increase their ability to use print cues and phonological cues to generate, confirm, or alter their responses.

Reading Recovery teachers foster the development of strategies, including analogical thinking, and as children employ these strategies in reading, they are in effect teaching themselves about print. It is the problem-solving that children do as they pursue meaning through the reading and writing of whole texts that builds the store of words and word-parts that they can identify and recall. The teacher subtly encourages and solidifies these new and emergent learnings, but her or his main objective is to strengthen the learning processes at the child's disposal. The Reading Recovery teacher's unstated message to the child might be expressed as: *I am going to help you work out how to learn.* Learning to recognize words, word-parts, and sound-symbol associations becomes a by-product of the child's learning system and his or her daily efforts.

In contrast, reading programs that espouse direct instruction are based upon the unstated message, *We are going to teach you what you need to know.* The learning occurs primarily through telling. True, there is repetition, recall, feedback, reinforcement, and even many ingenious techniques to foster associations, but new learning is generally revealed to the student on a timetable controlled by adults.

Direct instruction is effective as long as the student is under tuition. Done well, it may be more efficient than instruction which allows the student to construct relationships as if they were personal discoveries. But it is not direct instruction that has given advantaged students their edge. These high progress children have developed self-extending learning systems that work well for them under a variety of conditions. They tend to fill in the gaps when exposed to programs with a narrow emphasis; they make connections quickly and learn easily through analogy (Clay, 1991). These characteristics were acquired before they entered school in homes that did not use direct instruction. If low progress learners are to catch up with such peers, they must acquire the same self-initiating systems of learning. Advocates of direct instruction claim that this is the most efficient way for slower learners to learn. For a sprint, they may be right; for a marathon, the opposite is true. In order for learning to be established as a lifelong process; motivation, momentum, and persistence must come from within.

Print Knowledge Emerges and Becomes Internalized

Whole language researchers have insisted that for adult readers, prediction plays a heavy role. They claim that the mature reader samples only as much visual information as necessary to confirm anticipated meanings (K. Goodman, 1967, 1989; Smith, 1985; Weaver, 1994). They object to instruction that isolates elements of print and provides practice on the sound-symbol associations. They down-play (if not deny) the importance of detailed knowledge of these print-language associations. Code-emphasis researchers disagree; people become good readers by becoming faster and more efficient at word identification, not by coming better guessers, and word identification is related to strong knowledge of sound-symbol associations (Ehri, 1989; Ehri &Wilce, 1985; Stanovich, 1986, 1994).

The research cited by the code-emphasis researchers cannot be ignored; better readers are faster and more accurate word-processors (Adams, 1990; Juel, 1991; Stanovich, 1986). But did they become better readers because they learned to be good word processors? Or did they become good word processors because they learned to be good readers? The theory and experience of Reading Recovery suggests that the latter is true, at least for a large number of children. As mentioned earlier, the problem-solving work that children do as they read and write for meaning leads to increasing knowledge of words and word-parts. One explanation of

the accelerated learning phase that Reading Recovery children enter is their ability to learn words by using searching and cross-checking strategies. They learn to search meaning at several levels, language structural expectations, and cues from print and from the sounds of anticipated words—all while retaining the meaning of the story as their goal. They also learn to search their own knowledge of known words and word-parts and to reason by analogy from that knowledge to new items.

Researchers focused on the code or on phonemic awareness have argued that learning to read is quite different from oral language acquisition and that learning to read requires deliberate and sequenced instruction (Liberman & Liberman, 1990; Liberman, Shankweiler, Liberman, Fowler, & Fischer, 1977). It has been assumed that those children who acquire with remarkable rapidity a knowledge of relationships between patterns of print and patterns of language have been precocious and rare (Clark, 1976; Durkin, 1966). Experience with Reading Recovery children indicates that almost all children are capable of acquiring this knowledge at a fairly rapid rate if they have developed a self-learning system and enjoy frequent, regular opportunities for literacy experiences. Whether this fact represents an amazing general ability of young humans to learn or a specific ability for language learning (including literate language) is something that merits considerable further research. What is clear, however, is that we could never be as successful with literacy instruction if children were not naturally endowed as learners. The tasks of teaching are to help children unlock this amazing ability and to establish conditions that foster and allow literacy learning to continue. When we try to do more than that we end up making it hard for those who haven't yet learned how to learn and we get in the way of those who can make rapid, natural progress.

One lesson from Reading Recovery experience is that for many children the initial task of learning how to learn words is very difficult. Two-dimensional, visual-perceptual analysis is quite different from previous experience and these beginners have no categories to help with the memory storage of the visual forms. Limited phonemic awareness and sound-symbol associations make it difficult to link what they attend to visually to other knowledge. By starting with what the child does know and proceeding slowly, Reading Recovery teachers help children develop these rudimentary learning processes so that accelerated learning is possible.

Words become known gradually, over repeated experiences and exposures. But research evidence (Zaporozhets & Elkonin, 1971, reported in Clay, 1991, p. 282-283) and Reading Recovery experience suggest that the speed at which they are acquired depends upon the extent to which the learner is contributing to the learning task. If the learner is passive, the number of repetitions required for learning is very high, for example, the controlled vocabulary and endless repetitions of basal readers was based on research indicating that at least 40 repetitions were necessary to acquire a word (Gates, 1961). But, if the child is using problem-solving strategies while reading with meaning very much in mind, he or she may learn a new word after four to six encounters. The knowledge may still be limited, dependent perhaps on a particular story context, but it seems to progress fairly quickly to the automatic and certain level. As most children progress through Reading Recovery, the time needed to acquire knowledge of words and word-parts seems to shorten at an almost geometric rate.

In other words, once the learning processes are in place, a child can continue to learn in less than ideal conditions. He or she no longer needs contingent teaching from a skilled tutor. This is the logic of the short-term intervention; this is why Reading Recovery children are discontinued (graduated) to continue their literacy learning in regular classrooms.

Children must acquire and use sound-symbol associations in order to become readers. But in Reading Recovery this is not the central focus of teaching and learning. The Reading Recovery teacher recognizes and trusts the process of incidental learning, but she or he also assists it in

several ways: (a) the teacher finds out what the child knows about words and letters upon entrance and helps the child use that knowledge as a bridge to new learning (e.g., if the child's name is Mark and he can write *Mark*, she calls attention to the similarity of Mark and Mother, first by telling or demonstrating, and then by asking or commenting); (b) during both reading and writing tasks, phonemic awareness is fostered by using Elkonin (1973) boxes and questioning techniques to help children hear and record sounds in words; (c) children are encouraged to learn one or two new words occasionally through repeated writing and unprompted recall. By the time that a child is flexible and fluent in writing about 30 or 40 high frequency words, he or she will have gained familiarity with most of the basic sound-symbol associations of English (Clay, 1991); (d) based upon careful observation and knowledge of children, the teacher makes comments or asks questions that help the child see relationships and develop networks of associations; and (e) children are engaged for two to three minutes daily in very simple puzzle-like activities with magnetic letters to further demonstrate these relationships and to let children continue to explore links that they have begun to see through reading and writing (Clay 1993b).

We see that Reading Recovery children acquire the knowledge of words and sound symbol-associations that is at least equivalent to most of their age-mates. However, this is done in the process of reading continuous texts with a focus on meaning and in the process of writing meaningful sentences and stories. The teaching interventions that assist and help solidify this learning are minimal and are based upon the teacher's awareness not only of what the child knows, but what he or she is beginning to notice as well (DeFord, 1991).

The difference between Reading Recovery and meaning-emphasis advocates is that the latter (whole-language) has faith that children will acquire almost all they need to know almost entirely through incidental learning as they engage in literacy activities under appropriate conditions. They acknowledge the utility of demonstrations and models, for example, as in invitational mini-lessons (Atwell, 1987), but they shrink away from more intrusive teaching moves, such as assisted performance, informing, prompting, and immediate feedback, that also occur in Reading Recovery. The difference between Reading Recovery and supporters of strong code-emphasis is that the latter make word-learning and sound-symbol associations the focus of their teaching, rather than the learning of strategies and processes that would allow eventual independence. They tend not to trust or recognize incidental learning. Often they operate on the principle: the stronger the dose, the greater the chance that all children will learn. According to Clay (1991; 1993b), this *overkill* approach is self-defeating. It creates failure situations for many children because the teaching is at too high a level, it creates boredom for the high progress learner, and it makes reading an unpleasant duty rather than a rewarding literacy experience.

Maintaining a Focus on Reading is Always Important

As explained before, code-emphasis researchers downplay the role of context and prediction in the reading process, basing their evidence primarily on (a) the high sensitivity of mature readers to visual detail in print and (b) the improbability of guessing the next word in any sentence or discourse string. But their evidence does not show that meaning is *not* operating or playing an important part. In fact, their data show that anomalies of any kind (distortions of spelling, syntax, or semantics) slow down the reader's processing and the more the meaning is disrupted by the anomaly, the more the processing is disrupted (Just & Carpenter, 1987; McConkie, 1979; Rayner & Pollatsek, 1989).

Experience with Reading Recovery teaching demonstrates that if the meaning breaks down, almost everything breaks down. For children with very limited knowledge of words and print,

there is a necessary dependence on meaning and language structure in order to participate in literacy experiences at all. But throughout the program, what seems to distinguish independent readers from those who still need individual help is their ability to read fluently with meaning in mind, making short detours for problem-solving at the word level when necessary, but returning almost immediately to a discourse level of meaning.

Meaning plays a role in reading in three ways: (a) it is the goal and the motivation; (b) it is a source of information when searching for a response; and (c) it is used in confirming, rejecting, or self-correcting responses. Reading Recovery teachers usually respond to a child's reading difficulties (miscues, stoppages) by prompting first for considerations of meaning. As children progress, teachers balance their prompts for meaning, language structure, and print detail in relation to the pattern of the child's performance (Clay, 1991, 1993b).

Whole language advocates would agree wholeheartedly with the Reading Recovery emphasis on meaning. Code-emphasis researchers tend to assign less importance to meaning as part of the ongoing processing during reading, partly because print knowledge accounts for a much higher percentage of individual and group differences in their investigations and partly because of their belief that letter and letter-sound knowledge is a necessary foundation and prerequisite for reading.

A Theory of Change Over Time

It is significant that Clay's theories of reading and reading acquisition were developed on the basis of intense longitudinal studies of school children between the ages of five and six who were in the early stages of literacy acquisition. In addition to standardized formal measures taken at ages 5:0, 5:6, and 6:0, Clay's study involved weekly observations of 100 children's reading performances throughout an entire year (Clay, 1982). Evidence supporting code-emphasis theories of learning to read derives almost exclusively from studies which collect data at two, three, or sometimes five points of time; their research questions center upon the relative effects of specific variables, such as phonemic awareness, letter knowledge, ability to read pseudo-words, and reading comprehension (Bradley, Bryant, MacLean, & Crossland, 1989; Juel, Griffith, & Gough, 1986). Clay, on the other hand, observed children's processing as they were learning to read and write and she was able to record the diverse characteristics of individual children as learning progressed. As a result, her theories are based more strongly upon notions of (a) change over time and (b) unique contributions by individual learners than are other theoretical frameworks.

Children's reading behavior changes over time as their concepts about reading and writing emerge, as their knowledge about print increases, and as they learn how to use that knowledge strategically in the process of reading (which is also the process of learning to read). Initially, children respond to books and print globally, based upon their well-developed language capability, their experience with stories and narration, and their emerging literacy concepts. For example, they may tell a story from the pictures of a child's book, with almost no reference to print features (even if they realize what print is for). Soon they discover the relationship between oral language and print, and when they have some control over directional conventions, they can begin to match oral words with word boundaries while reading with a story in mind. What they may have learned about letters and written words helps them in these discoveries and the ability to match language to print in turn leads to new discoveries about letters and words.

As children acquire the alphabetic principle (with or without tuition), they begin to make new discoveries about sequences of letters and sequences of sounds within words and across

related sets of words. Most children are able to learn about print through teacher-directed instruction; though in the process, some children become rather passive learners, dependent upon external guidance. It is the children who are able to use knowledge strategically and analogically who make rapid learning progress and who continue to advance their learning by the actions of reading and writing continuous texts while keeping meaning very much in mind.

Though what has been summarized might seem to fit nicely into a staged theory of reading acquisition, Clay's observations of the variability of children's progress toward literacy suggest otherwise. The notion of children as constructors of their own knowledge is consistent with the finding that development may be uneven and comparatively different from child to child and that many children form misconceptions about how reading and writing work. The broad outlines of literacy development can be traced (largely because the nature of the print conventions and the processes of reading and writing are relatively invariant), but the fine points concerning the progress of any individual cannot be easily predicted within those outlines or fit into stage theories of any specificity useful in instruction.

Although Clay's theories emphasize the role of meaning and language in learning to read, they also encompass the growing sophistication of children's knowledge about print. But this knowledge is quite complex, drawing upon phonological knowledge and awareness, perceptual learning, and an increasing intuitive awareness of complex relationships between print sequences and conventions and language and meaning. Code-emphasis research has uncovered the strong relationship between knowledge of the print-language coding conventions and measures of reading capability. Clay's theories do not deny the strength of that relationship. But they lead us to realize that reading, even in its earliest manifestations, is much more complex than the ability to apply sound-symbol knowledge. Furthermore, they lead to the realization that what produces that knowledge is the child's application of intelligent strategies as he or she engages purposely and enjoyably in meaningful activities rich in literacy opportunities.

Clay's theories also explain why beginning reading instruction which emphasizes word-learning and sound-symbol relationships can reduce the possibility that many children will become good readers. The low-progress children may learn to plod through spelling and decoding exercises and struggle through text when required, but they will not acquire the learning strategies or the rich tapestry of knowledge and abilities that literate reading involves. Clay's theories also suggest that in order to get started, some children will need a much stronger and more skillful intervention than classroom instruction can provide, no matter how rich the literacy activities and the teaching and learning interactions that occur.

Summary

K ey concepts from the theoretical work of Marie Clay and the extensive teaching experience and results of the Reading Recovery program offer a rich source of information about the initial stages of literacy. This intense and richly documented intervention program for the lowest achieving first grade students offers insights that are especially relevant to the theoretical and practical debates between meaning-emphasis (whole language) and code-emphasis writers and researchers.

The principles from Reading Recovery theory and experiences presented here may help refocus these debates more productively by changing the focus of these debates more productively by changing the focus of inquiry. The ideas presented here are:

1. *Reading is a complex, problem-solving process* that cannot be simplified by focusing the learners attention to one source of information at a time.

2. *Reading is a phased, thinking-feeling-communication process* involving motivation, the intentional pursuit of meaning, cycles of engagement, monitoring, and assimilation into and accommodation of existing knowledge structures.

3. *Learners construct their own knowledge* by actively pursuing meaning, relating new learning to old, and using strategies to solve problems.

4. *The focus of teaching is strategies.* By learning how to learn—as they explore the new worlds of literacy, stories, and print under expert tutorial guidance—young children develop a self-extending learning system that may serve them as long as they are active in literate activities.

5. *Print knowledge emerges and becomes internalized.* Meaning and language structure probably play no less a role in mature reading than in beginning reading. But print knowledge changes dramatically, even during the first year of literacy instruction. Once they have learned how to learn, young children have an almost uncanny capacity to acquire knowledge of relationships between letter patterns and language patterns, given adequate and appropriate reading and writing experiences.

6. *Children do learn to use associations.* Children's miscues increasingly reflect attention to print and letter cues as they become more accomplished readers (Clay, 1982, 1991). But guidance in the acquisition of that knowledge should be delicately and sensitively attuned to what the child already knows and to how he or she is performing. Either a laissez-faire approach or an overkill approach is damaging to many children. Build on strengths, teach only as much as needed, and acquire literacy through the reading, writing, and rereading of continuous texts are principles of Reading Recovery that merit wider adoption.

7. *Maintaining a focus on meaning is always important.* If reading is not a meaning-driven, meaningful activity, it is not reading. Laboratory and classroom research studies must seriously investigate the effects of losing a focus on meaning and on language structure, both before and after the development of some sophistication in perceiving and processing patterns of print.

8. *Theories of beginning reading must recognize changes over time.* Although the results of learning to read involve knowledge of print code conventions and high-speed automatic word recognition, Clay's theories inform us that the beginnings of literacy involve language, a sense of story, and concepts about books and print at a rather global level. Reading capability emerges and becomes a rich mixture of knowledge about print sequences, phonemic awareness, and meaning and syntactic relationships as children apply knowledge strategically in meaningful reading and writing experiences. Individual paths of progress are only roughly predictable because of the diverse opportunities and contributions to learning of each individual.

All leading theorists in the debate from either side would agree that prior knowledge, meaning, language cues, letter and word cues, punctuation and other print conventions, and phonological cues all play a part in that enormously complex process that is reading. Disagreements over emphasis, definitions, the inclusion of the broader social-emotional-communication considerations, and the translation of ideas into practice prolong a schism that presents unfortunate dilemmas for educational practitioners. Each side of the debate holds perceptions prejudiced by differences of value and belief. But, observations and reflections about the onset and early stages of literacy from the special vantage point of Reading Recovery teaching is a resource that should not be overlooked. It can help us move beyond entrenched positions to more productive research and to more helpful instructional practices in early literacy education. As Stanovich (1994) has urged, if we approach these issues with good intentions and try hard to overcome our biases, much can be learned from our collective thought and experience.

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ERRATA

The following items were printed inaccurately in Noel Jones' article, Learning to Read: Insights from Reading Recovery, in Literacy, Teaching and Learning, Volume 2, Number 1. Our apologies to the author and the readers.

p. 50: Heading should read: *Maintaining a Focus on Meaning is Always Important.*

p. 44, line 2: The word *diachronically* was substituted for *synchronically.*

p. 52, second paragraph from the bottom: The second occurrence of the words, *these debates more productively by changing the focus of*, should be deleted.

p. 53, principle #6: The word *letter-sound* was omitted. It should read: *Children do learn to use letter-sound associations.*