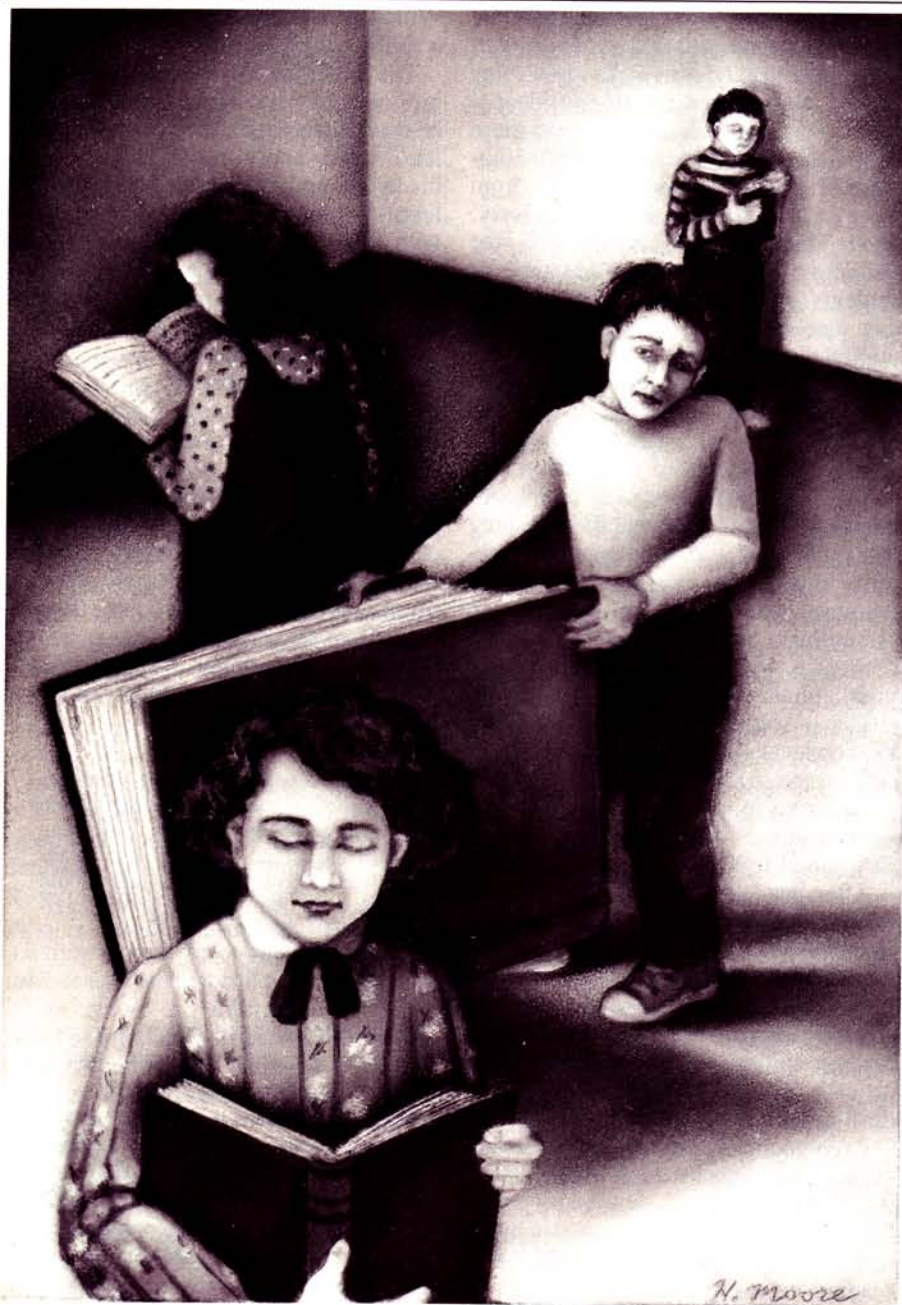


# Deprogramming Reading Failure: Giving Unequal Learners An Equal Chance



*Too many students are victims of the unspoken presumption that there is one right way to teach all children to read. But the research on child development and reading styles indicates that what is "appropriate" for one student may be damaging to another, says Ms. Carbo.*

BY MARIE CARBO

**A**T THE AGE of 7, Tom was wrongfully branded as "learning disabled" and "severely emotionally disturbed" and shipped off to a school for the handicapped. At the end of third grade, after four years of intensive phonics instruction, Tom could read only a few words. He was convinced that he was "stupid" and "bad," and he began to have recurrent stomach pains.

The destruction of Tom's natural desire and ability to learn to read had begun in kindergarten and had continued throughout the intervening years. He had been inappropriately taught, embarrassed by his poor performance, and teased and taunted by his schoolmates. Tom's steady academic decline was temporarily halt-

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ed in fourth grade, when his teacher's approach to teaching matched his reading style. That year, Tom encountered for the first time holistic reading methods, tactile/kinesthetic materials, and no phonics. Within eight months, he was reading on a second-grade level, and his stomach pains were a thing of the past.

Unfortunately, that breakthrough was not enough to save Tom. His family relocated, and he had to attend a different school. The reading program in his self-contained fifth-grade classroom for the handicapped consisted of worksheets and more phonics. Since Tom could not learn through these approaches, he never advanced beyond a second-grade reading level. Eventually he dropped out of school to join the swelling ranks of adult illiterates.

This should never have happened. For most of Tom's 12 years in school, he had been mislabeled, misplaced, mistaught, and unfairly tested. Yet he had a normal I.Q. and had attended what most observers would consider "good" middle-class suburban schools. Tom should have learned to read well. He should have become a literate, productive citizen. Like millions of other students, however, Tom was a victim of an unspoken presumption in our schools: that there is one right way to teach children to read — and that there is something inherently wrong with any student who cannot learn to read by that method. A predictable result of that misguided presumption has been the rapid and costly growth of remedial reading programs and of special education classes for students who fail to learn. To make matters worse, research has shown that the most common approaches to the teaching of reading in U.S. classrooms — worksheets, drill, and phonics — are ineffective for many students.

**W**HY WAS Tom able to learn so well in fourth grade, when he gained 1½ grade levels in reading? During that year, for the first and only time, Tom was taught in a manner that matched his reading style. Tom's reading-style profile is similar to that of thousands of poor readers whom my colleagues and I have observed, interviewed, and tested. Most of these youngsters — regardless of grade level or type of school — have exhibited *global*, *tactile*, and *kinesthetic* reading styles.<sup>1</sup> They have rarely been exposed to instruc-

tional materials and procedures that motivate them and enable them to learn, but they usually make great strides in reading when the method of teaching accommodates their individual strengths.<sup>2</sup>

The kinds of reading programs that have worked best for poor readers have accommodated their global, tactile, and kinesthetic strengths. Youngsters with global reading styles are whole-to-part learners. They require both high-interest reading materials that involve them emotionally (especially humor) and holistic reading methods (e.g., choral reading of stories, writing of stories, listening to tape recordings of stories).<sup>3</sup> With predictable consistency, those instructional techniques have enabled students with global reading styles to make rapid gains both in reading and in self-confidence.

For example, two teachers used these approaches with great success with 10th- and 11th-graders who were reading from three to five years below grade level. First, the teachers administered the *Reading Style Inventory* to identify the students' reading-style strengths.<sup>4</sup> Then they decided to scrap all formal skill work and to substitute high-interest stories, which they read aloud while the students followed along in their own books.

The teachers also taped excerpts of stories for students to listen to in private.<sup>5</sup> This method enables many students to read books above their reading level with fluency and accuracy. The material should be recorded at a slower-than-usual pace, so that the students can synchronize the printed words and the recording. Only two to four minutes of high-interest, well-written reading materials — somewhat above the students' reading level — should be recorded. Students listen to a recorded passage two or three times, following the printed words in their books. They then read the passage aloud to a peer or to a teacher.

After just one week of these holistic reading methods, the youngsters and their teachers were engaging together in choral readings of parts of stories. Within three months, most of the students had advanced two to three grade levels in reading ability, and they were enthusiastically reading and acting out plays during their reading class.

Even youngsters with the most severe reading deficiencies have made extraordinary progress. A few years ago a Chapter 1 reading teacher was struggling to teach Brad, a ninth-grader who was reading on a preprimer level. None of

Brad's regular classroom teachers thought that he would ever learn to read. Predictably, Brad's reading style was global, tactile, and kinesthetic. The Chapter 1 teacher shared that and other information with him — and then enlisted Brad's help in designing his own reading program. Since none of the reading materials at Brad's level interested him, he dictated, copied, and typed his own simple stories.<sup>6</sup> His teacher taped those stories and constructed games based on them.<sup>7</sup> Brad listened to the recordings until he could read his stories fluently. The games gave him the tactile/kinesthetic reinforcement that he needed to master the vocabulary. Within two years, Brad was reading on a fourth-grade level.<sup>8</sup>

The importance to Brad of such strategies as story writing and games cannot be overemphasized. They enabled him to learn words and to retain them through his tactile and kinesthetic strengths. To learn to read easily and well, students with a tactile/kinesthetic reading style *must* use a variety of hands-on resources (e.g., computers, games, typewriters); they also need a variety of kinesthetic materials and experiences (e.g., acting in plays, pantomiming, drawing pictures and then writing about them, creating and using puppets for storytelling, reading directions in order to make a model).

In *A Place Called School*, John Goodlad noted that students spend most of their class time either doing seatwork or listening to a teacher lecture. Rarely are they given opportunities to learn experientially or from one another. More recently, Goodlad also maintained that "handedness" is seen as an inferior mode of learning to "headedness."

There is in this and other countries the belief that people fall naturally into one of two categories — those who can learn and should work with their heads and those who can learn and should work with their hands. Schools generally favor those thought to be in the former category.<sup>9</sup>

**I**T COMES as no surprise that many poor readers are predominantly global, tactile, and kinesthetic learners — for that is precisely the reading style that seems to be accommodated least in U.S. classrooms. Unfortunately, many of today's poor readers are dropouts of reading programs that demand strongly analytic/auditory reading styles. Analytic students are part-to-

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whole learners. They can often master isolated skills that are presented in a sequential fashion, they enjoy forming words from bits and pieces of phonetic information, they can easily recall details, and they like to work with puzzles and nonsense words. Youngsters with auditory reading styles are capable of discriminating among subtle differences in letter sounds, associating those sounds with letter shapes, and blending letter sounds quickly to form words.

Instruction in phonics is undoubtedly beneficial for some learners, but the amount that is needed varies, depending on an individual child's reading style and preferences. Youngsters with auditory and analytic reading styles often require phonics instruction to become proficient readers; those with strongly global and visual reading styles, by contrast, may need little or no phonics instruction. Most students benefit from a limited amount of "useful" and "sensible" phonics instruction — provided that the focus of the reading program is on meaning and comprehension and that children like Tom are not expected to participate.

Instructional approaches that virtually force students to learn through their reading-style weaknesses tend to produce failure, boredom, and loss of self-esteem, while approaches that capitalize on students' reading-style strengths tend to sharply increase their self-confidence and their reading achievement. Students who understand their reading-style strengths and learn through them tend to experi-

ence a sense of power — which leads, in turn, to more efficient learning and improved behavior.<sup>10</sup>

Every student has a basic need for power, according to William Glasser. Students need to feel important in school; they need to be able to say, "Someone listens to me; someone thinks that what I have to say is important; someone is willing to do what I say." When this basic need for power is ignored, many children "pay little attention to academic subjects," Glasser maintains. Instead, they engage "in a desperate search for . . . acceptance" that may lead to behavioral problems.<sup>11</sup>

What generally happens when reading instruction fails to match children's reading styles? Like Tom, they feel alienated from their classmates, develop an aversion to reading, and exhibit symptoms of stress that make learning difficult. In a book titled *Stress and Reading Difficulties*, a 30-item "Stress Reaction Scale to Reading" is presented.<sup>12</sup> The behaviors it describes are typical of students whose reading instruction has failed to match their reading styles for long periods of time. The fact that the International Reading Association chose to publish and distribute such a book suggests that the problem is pervasive.

**A**LTHOUGH many U.S. children do learn to read, the number of poor readers, aliterates, and illiterates is a national disgrace. Today's heavy emphasis on phonics and skill work throughout the primary grades — and, in some cases, throughout preschool and kindergarten as well — has dehumanized reading instruction and made learning to read unnecessarily difficult and uninteresting for young children. David Elkind warns, "We miseducate children whenever we put them at risk for no purpose. Formal instruction puts excessive demands on young children."<sup>13</sup> The "excessive demands" of overformalized, skills-oriented reading instruction seem to have taken their toll. Research indicates that motivation to read and amount of voluntary reading — both potent factors in determining reading ability — decrease throughout the grades.<sup>14</sup>

In recent years, the whole-language approach to teaching reading has been one of the most successful reading programs for primary schoolchildren. Its success makes sense when we analyze the read-

ing styles of young children. The whole-language approach focuses on high-interest children's literature and uses holistic instructional methods.<sup>15</sup> Young children tend to be strongly global in reading style and thus would learn well with holistic methods that are reinforced by many visuals.<sup>16</sup> By the time they reach third grade, some children become more analytic; in most primary classrooms, however, children with analytic reading styles are likely to be in the minority.

To teach reading well to global learners, *meaning is the key*. Such youngsters recall words presented within the context of a well-written story more rapidly than they recall words presented in isolation or words presented in poorly conceived or poorly written stories. Global learners also remember dissimilar but high-interest words (e.g., *monster*, *Charlie Brown*, *dinosaur*) more easily than they remember the similar but low-interest words that generally appear in instructional materials that focus on phonics (e.g., *bet*, *get*, *let*).<sup>17</sup> Global learners tend to rely heavily on visual cues; thus they often "draw" mental pictures to help them remember individual words. Understandably, such youngsters have trouble visualizing (and therefore learning) isolated letter sounds or words that have little meaning for them.

Most phonics- or linguistics-based instructional materials fail to provide the well-written and interesting stories that global learners require. The authors of *Becoming a Nation of Readers* suggest that "a high proportion of the words" in the earliest selections that children read "should conform to the phonics they already have been taught," but they also acknowledge that children "have an easier time understanding stories written in familiar language."<sup>18</sup> Yet instructional materials based on a phonics or a linguistic approach to reading present young learners with stilted language and "non-stories" that hold little interest for them. The following excerpt from a preprimer employing a phonics approach is a good example:

Gum is on the jug. Gum is on the cup. Val is mad at the pup.<sup>19</sup>

Preprimers using a linguistic approach exhibit the same characteristics, as the following excerpt demonstrates:

The man can fan. I can fan the man.  
The man can fan Dan. I can fan Dan.<sup>20</sup>

The authors of *Becoming a Nation of Readers* recognized this problem:

Is it possible to write interesting, comprehensible, and natural-sounding selections for young readers while at the same time constraining the vocabulary on the basis of letter-sound relationships? It ought to be possible to come much closer to the ideal than the most widely-used programs do at the present time.<sup>21</sup>

However, "natural-sounding selections" that use a "constrained vocabulary" based on "letter-sound relationships" do not exist at present (and probably never will).

At the age of 6 or 7, children tend to be kinesthetic, tactile, visual, and auditory learners – in that order. They learn easily through whole-body movement and through the sense of touch; they usually have more difficulty learning to read through activities that involve listening. As Elkind has observed:

[Y]oung children . . . learn best

through direct contact with their world rather than through formal education involving the inculcation of symbolic rules. The fact of this difference is rooted in such giants of child study as Froebel, Montessori, and Piaget, and it is consistently supported by the findings of research in child development.<sup>22</sup>

The implications of the research on child development and reading styles are both clear and profoundly important. Reading programs for young children should incorporate holistic reading approaches and involve the tactile and kinesthetic modalities of the learner. Young boys may be at greater risk in reading programs with a strong emphasis on listening, worksheets, and phonics, since they tend to have less-well-developed auditory and verbal skills and they tend to learn through kinesthetic activities longer than their female counterparts.<sup>23</sup> (Boys outnumber girls about 4:1 in special reading classes and in classes for the

learning disabled.) Many children are apparently taught too much phonics too early and for too long a period of time. According to Elkind, "parents, educators, administrators, and legislators are blatantly ignoring the facts, the research, and the consensus of experts about how young children learn and how best to teach them."<sup>24</sup>

**T**HE FOLLOWING recommendations for teachers, which spring from research findings on learning and on reading styles, will give unequal learners an equal chance to become successful readers.

1. *Identify and match students' reading-style strengths, especially their perceptual and their global/analytic abilities.* (See Table 1 for specific suggestions.) Other elements of reading style that affect learning to read suggest that students need to work in cooperative groups and to have a comfortable classroom reading area (equipped with carpeting or pillows and soft furniture) available to them. Many students strongly prefer to select their own reading materials. Most primary school students enjoy reading in pairs, and many older students benefit from classroom schedules that include time for sustained silent reading.

2. *Share information with students about their reading styles.* The body of research on effective schools and William Glasser's work on control theory underscore the importance of school climate to student achievement. When students understand their own reading styles and are given opportunities to learn through their reading-style strengths, they tend to feel respected, valued, and empowered. Those feelings generally translate into higher achievement and fewer disciplinary problems.

3. *Eliminate phonics from reading achievement tests.* Phonics is a reading method, not an instructional goal for every child. Students should be tested on their reading comprehension and fluency. Youngsters with global reading styles often score poorly on tests of decoding skills, even though they read well. Cyndy Fels has developed guidelines to help reading teachers write instructional objectives that accommodate students' individual reading styles.<sup>25</sup>

4. *For global learners, deemphasize or delete skill work requiring a strongly auditory/analytic reading style.* The purpose of reading instruction is to make

**TABLE 1.**  
**Matching Instructional Methods**  
**To Students' Reading Styles**

Reading Method	Description	Reading-Style Requirements
Phonics	Isolated letter sounds or letter clusters are taught sequentially and blended to form words.	Auditory and analytic strengths
Linguistic	Patterns of letters are taught and combined to form words.	Auditory and analytic strengths
Orton-Gillingham	Method consists of phonics plus tactile stimulation in the form of writing and tracing activities.	Auditory and analytic strengths combined with visual weaknesses
Whole-Word	Before reading a story, new words are presented on flash cards and in sentences, with accompanying pictures.	Visual and global strengths
Language-Experience	Students read stories that they write.	Visual, tactile, and global strengths
Fernald	Language-experience method plus student traces over new words with index finger of writing hand.	Tactile and global strengths combined with visual weaknesses
Choral Reading	Groups read a text in unison.	Visual and global strengths
Recorded Book	Students listen two or three times to brief recordings of books, visually track the words, then read the selection aloud.	Visual and global strengths

learning to read easy and enjoyable. Much of the commercially prepared skill work in reading is unsuitable for youngsters with global reading styles and serves little purpose other than to diminish their desire to read.

5. *Use high-interest, well-written reading materials.* Incorporate well-written and interesting trade books into the reading program, and eliminate any poorly written or dull stories that the basal reader may contain. In selecting reading materials for your class, enlist the help of students and of colleagues (especially school librarians).

6. *Always begin reading lessons with global strategies.* Many youngsters — especially students in the primary grades or poor readers — tend to have global reading styles. Global strategies include telling or acting out a story before students read it and reading a story aloud while students follow along in their books.

7. *Use a variety of global reading strategies with poor readers and with children in the primary grades.* In addition to the two techniques I mentioned above, teachers might ask students to view a film or filmstrip about a story before reading it, to listen to a recording of a story while following along in their books, to read a story in unison, to write about a story they have read, or to write original stories (and then, perhaps, to illustrate or tape-record them). With students whose reading styles are sufficiently analytic, teachers can use approaches that emphasize word analysis.

8. *Involve the tactile and kinesthetic modalities of learners, and include many visuals in your reading lessons.* Research indicates that, in order to learn to read well, many primary students and many poor readers need tactile/kinesthetic resources (e.g., typewriters, computers, sand trays, floor games, paints); tactile/kinesthetic experiences (e.g., acting in plays, pantomiming, writing stories and skits, creating and using puppets for storytelling); and visuals, such as filmstrips, films, drawings, and photographs.

The account of Tom's plight is true; only his name has been changed. Moreover, Tom's story is not unusual, though far too many policy makers have trouble accepting the fact that some "normal" children need to learn to read in a manner that seems less logical than the traditional approach. These policy makers continue to formulate instructional poli-

cies that are detrimental to many of the youngsters they are intended to serve.

Only 18.8% of "disadvantaged" youngsters in the U.S. ever reach an "adept" level of reading proficiency. Estimates of the illiteracy rate among minority youngsters run as high as 40%.<sup>26</sup> Approximately half a million U.S. students have been miscategorized as learning disabled.<sup>27</sup> By rarely using reading methods and materials that motivate poor readers and enable them to learn, the schools fail to give such youngsters an equal chance. Like very young students, poor readers often have reading styles that are strongly global, tactile, and kinesthetic. Matching instruction to their natural reading-style strengths enables such youngsters to make significant gains in reading.

President Reagan has invited all Americans to observe a "Year of the Reader" in 1987 with "appropriate educational activities to recognize the importance of restoring reading to a place of preeminence in our personal lives and in the life of our nation."<sup>28</sup> The important question in reading education is, What are "appropriate educational activities"? Research on learning styles and on reading styles shows that what is "appropriate" for one student may be damaging to another. Educational activities are appropriate only if all students are given an opportunity to learn to read with ease and enjoyment through instruction that is matched to their learning-style strengths.

This year could mark the beginning of an end to unsuitable instructional practices that unjustly deny many students their right to the power and the joys of literacy. But in order for that goal to be achieved, 1988 must be a year of reflection, resolve, and reform.

1. See, for example, Marie Carbo, "Research in Learning Styles and Reading: Implications for Exceptional Children," *Exceptional Children*, vol. 49, 1983, pp. 486-94; Rita Dunn, Gary Price, and William Sanders, "Reading Achievement and Learning Styles," *Clearing House*, vol. 54, 1981, pp. 223-26; Marie Carbo, Rita Dunn, and Kenneth Dunn, *Teaching Students to Read Through Their Individual Learning Styles* (Reston, Va.: Prentice-Hall, 1986), Chs. 1 and 2, Appendixes A and B; Richard Sinatra and Josephine Stahl-Gemake, *Using the Right Brain in the Language Arts* (Springfield, Ill.: Charles C Thomas, 1983); Mary Sudzina, "An Investigation of the Relationship Between the Reading Styles of Second Graders and Their Achievement in Three Different Basal Reader Programs" (Doctoral dissertation, Temple University, 1987); and Joan E. Oexle and Robert Zenhausern, "Differential Hemispheric Activation in Good and Poor Readers," *International Journal of Neuroscience*, vol. 15, 1981, pp. 31-36.

2. See Rita Dunn, "Research on Instructional Environments: Implications for Student Achievement and Attitudes," *Professional School Psychology*, vol. 2, 1987, pp. 43-52; Rita Dunn et al., "Light Up Their Lives: A Review of Research on the Effects of Lighting on Children's Achievement," *Reading Teacher*, vol. 38, 1985, pp. 863-69; Rita Dunn et al., "The Effects of Matching and Mismatching Students' Mobility Preferences on Recognition and Memory Tasks," *Journal of Educational Research*, vol. 79, 1986, pp. 267-72; Roberta Wheeler, "An Alternative to Failure: Teaching Reading According to Students' Perceptual Strengths," *Kappa Delta Pi Record*, vol. 17, 1980, pp. 59-63; and an extensive bibliography of research on this topic in Carbo, Dunn, and Dunn, *Teaching Students to Read*. . . .

3. For a description of 12 reading methods and the ways in which they match different reading styles, see Carbo, Dunn, and Dunn, *Teaching Students to Read*. . . .

4. The *Reading Style Inventory* is a diagnostic test that identifies reading-style strengths and recommends compatible instructional approaches. The RSI is published by Learning Research Associates, P.O. Box 39, Roslyn Heights, NY 11577. Ph. 516/248-8002.

5. For a detailed description of this instructional approach, see Marie Carbo, "Teaching Reading with Talking Books," *Reading Teacher*, vol. 32, 1978, pp. 267-73; idem, "How to Make Books Talk to Children," *Reading Teacher*, vol. 35, 1981, pp. 186-89; idem, "Recorded Books = Remarkable Reading Gains," *Early Years K/8*, vol. 15, 1984, pp. 44-47; idem, "Advanced Book Recording: Turning It Around for Poor Readers," *Early Years K/8*, vol. 15, 1985, pp. 46-48; Carbo, Dunn, and Dunn, Ch. 6; and Carol Chomsky, "After Decoding, What?," *Language Arts*, vol. 53, 1976, pp. 288-96.

6. The Fernald word-tracing method was used with Brad because he was strongly global/tactile and had visual perception problems. In the Fernald method, when a student cannot correctly spell a word needed for a story, the teacher writes the word (preferably in cursive) on a 5x8 card, pressing down hard with a crayon to form raised, waxy letter surfaces. The student traces the word with the index finger a few times while saying the word aloud. Then the student turns the card over and writes the word into the story, drawing on the tactile memory of it. For a detailed description of this method, see Grace Fernald, *Remedial Techniques in Basic School Subjects* (New York: McGraw-Hill, 1943).

7. For instructions on constructing such games, see Carbo, Dunn, and Dunn, Chs. 6 and 7; David Adams and Jim Worthington, *The Meaning Driven Model* (Kirkland, Wash.: Reading Resources, 1986); Marie Carbo, "How to Play with a Book," *Early Years*, vol. 9, 1979, pp. 68, 72-74; and idem, "Global/Tactual Learners: How to Teach Them Reading Skills," *Early Years K/8*, vol. 16, 1986, pp. 47-50.

8. The card reader was another resource used with Brad to provide "fail-safe" word practice. This device allows students to see and listen to words or phrases in private and then to record them. For more information on the card reader, contact Bell & Howell, 7100 McCormick Rd., Chicago, IL 60645.

9. John Goodlad, "A New Look at an Old Idea: Core Curriculum," *Educational Leadership*, vol. 44, 1987, pp. 8-15.

10. See Lois LaShell, "An Analysis of the Effects of Reading Methods on Reading Achievement and Locus of Control When Individual Reading Style Is Matched for Learning Disabled Students" (Doctoral dissertation, Fielding University, 1986); and

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Carbo, Dunn, and Dunn, Chs. 1 and 2, Appendixes A and B.

11. Pauline B. Gough, "The Key to Improving Schools: An Interview with William Glasser," *Phi Delta Kappan*, May 1987, pp. 656-62.

12. Lance M. Gentile and Merna M. McMillan, *Stress and Reading Difficulties* (Newark, Del.: International Reading Association, 1987), pp. 14-16.

13. David Elkind, "Formal Education and Early Childhood: An Essential Difference," *Phi Delta Kappan*, May 1986, pp. 631-36.

14. See, for example, "Which Learning Style Elements Are Stable and Which Tend to Change?," *Learning Styles Network Newsletter*, Autumn 1980, p. 1; Carbo, Dunn, and Dunn, Chs. 1-3, Appendixes A and B; Marie Carbo, "Reading Styles Change from Second to Eighth Grade," *Educational Leadership*, vol. 40, 1983, pp. 56-59; and idem, "Reading Style: Key to Preventing Reading Failure," in James Keefe, ed., *Student Learning Styles and Brain Behavior* (Reston, Va.: National Association of Secondary School Principals, 1982), Ch. 13.

15. Detailed discussions of whole-language reading programs can be found in Adams and Worthington, *The Meaning Driven Model*. . . ; Marie M. Clay, *Reading: The Patterning of Complex Behavior*, 2nd ed. (Auckland, New Zealand: Heinemann, 1973); Don Holdaway, *The Foundations of Literacy* (Toronto: Scholastic TAB Publications, 1979); and Constance Weaver, *Psycholinguistics and Reading: From Process to Practice*, 2nd ed. (Portsmouth, N.H.: Heinemann, forthcoming).

16. See Sudzina, "An Investigation of the Relationship Between the Reading Styles of Second Graders and Their Achievement. . ."; and Carbo, Dunn, and Dunn, Chs. 1, 3, and 5.

17. Rita Dunn, Marie Carbo, and Elizabeth Burton, "Breakthrough: How to Improve Early Reading Instruction," *Phi Delta Kappan*, May 1981, p. 675.

18. Richard C. Anderson et al., *Becoming a Nation of Readers: The Report of the Commission on Reading* (Urbana: Center for the Study of Reading, University of Illinois, 1985), pp. 47-48.

19. Janis Asad Raabe, *Fun with Gum* (Cleveland, O.: Modern Curriculum Press, 1974), pp. 3-4.

20. D. Rasmussen and L. Goldberg, *A Pig Can Jig* (Chicago: Science Research Associates, 1964), p. 3.

21. Anderson et al., p. 47.

22. Elkind, p. 631.

23. Richard Restak, "The Other Difference Between Boys and Girls," *Student Learning Styles: Diagnosing and Prescribing Programs* (New York: National Association of Secondary School Principals, 1979), pp. 75-80.

24. Elkind, p. 632.

25. Cyndy Fels, "Creating Reading Objectives That Match Individual Learning Styles," *Clearinghouse Bulletin on Learning/Teaching Styles and Brain Behavior*, vol. 2, 1987, p. 6. (The Clearinghouse is jointly sponsored by the Association for Supervision and Curriculum Development and the Oklahoma State Department of Education. Copies of this issue of the *Bulletin* are available from the author at LRA, P.O. Box 39, Roslyn Heights, NY 11577. Enclose a self-addressed, stamped envelope.)

26. John B. Carroll, "The National Assessments in Reading: Are We Misreading the Findings?," *Phi Delta Kappan*, February 1987, pp. 424-30.

27. Samuel Kirk, "Redesigning Delivery Systems for Learning Disabled Students," *Learning Disabilities Focus*, vol. 1, 1986, pp. 4-6.

28. "1987: 'The Year of the Reader'," *Reading Today*, April/May 1987, p. 16. K