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Difficulties in Young Children for Adult Learning and Literacy

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Lessons from Preventing Reading Difficulties in Young Children for Adult Learning and Literacy

Volume 1: Chapter Two

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In the spring of 1998 the National Research Council released a report, Preventing Reading Difficulties in Young Children for Adult Learning and Literacy (PRD). This report, produced by a committee that included members identified with quite diverse perspectives on reading instruction, was widely heralded as having the potential to "end the reading wars." PRD was written with the goal of contributing to the prevention of reading difficulties by documenting the contributions of research to an understanding of reading development and the conditions under which reading develops with the greatest ease. The report started by presenting the best current, research-based model of skilled reading as a basis for reviewing the literature to determine which groups and individuals are at greatest risk of failure and what factors are associated with the reduction of risk. The perhaps somewhat utopian vision offered by PRD was that if the long list of recommendations within the report were implemented, the incidence of reading difficulties among American school children would be reduced from 15 percent to 40 percent down to 3 percent to 5 percent-eventually.

The most frequent question encountered by members of the PRD committee as they talk about the report to groups of educators is, "But what do we do about the middle and secondary school students who haven't learned to read? Will the recommendations in the report help them?" A similar question could be formulated about the many adults in the United States with poor literacy skills. This chapter discusses the implications of the report for adult literacy and family literacy programs, including programs teaching English for speakers of other languages (ESOL). The questions we address include the following: What is the relevance of the research base reviewed in the report to understanding adult literacy performance and instructional practice for adults? Are the

risk factors identified in the report as justifying secondary prevention efforts equally applicable to adult learners? What is the future of adult basic education (ABE) in a world where reading difficulties have truly been well prevented?

We begin with a brief summary of the findings of PRD that we consider most relevant to ABE and ESOL. We then present six case studies of adult literacy learners to illustrate how the issues brought up in PRD are and are not directly relevant to adult literacy difficulties. We conclude by suggesting areas of adult literacy in need of further research and ways that teacher preparation for adult literacy practitioners might be improved.

PRD limited its purview to research relevant to early reading, through third grade. The report identifies six opportunities that, if accessible to every child, would greatly decrease the risk of reading difficulties:

1. Support for the acquisition of language and of sufficient metalinguistic awareness to approach the segmentation of speech into smaller units that could be related to alphabetic writing
2. Exposure to print and to literacy uses and functions
3. Development of enthusiasm for reading
4. Opportunities to grasp and master the alphabetic principle
5. Access to preventive services if needed
6. Access to intervention as soon as reading difficulties emerge

With reference to the early years of school, the six opportunities define domains to which excellent reading instruction must attend; in other words, early adequate reading instruction provides children with the opportunity to acquire knowledge of and facility with the alphabetic principle and with sufficient practice to achieve fluency in the application of the alphabetic principle so that the construction of meaning is not disrupted.

The issues that emerge in higher stages of reading development (reading to learn, acquisition of literate vocabulary, education in content areas, and reading for critical purposes) are not covered by the report (although the report's discussion of the importance of decontextualized language skills even in the preschool years prefigures the important topic of the obstacles that at-risk learners face in some of these areas). A large proportion of ABE students-both those who are reading disabled and those who are not but still have all of the other risk factors-are stuck precisely at these later stages of literacy development.

RISK FACTORS

Preventing Reading Difficulties in Young Children for Adult Learning and Literacy devotes considerable attention to the task of defining risk factors and using the research literature as a basis for deciding which children are at an elevated risk of reading difficulties. We use this section of the report as a basis for comparison with factors associated with the risk of low literacy in the adult population.

Which Children Are at Risk for Literacy Problems?

The report distinguishes group and individual risk factors-not because the difference has any theoretical significance but because the strategies for identifying and providing secondary prevention efforts differ for the two types of risk. The most important group risk factors are listed here, but it is important to note that these factors are likely to be correlated with one another and, thus, that it has been impossible to determine the contribution of each individually:

- Attending a chronically low-achieving school. If a school consistently scores well below average on norm-referenced reading tests, any child attending that school (even children who do not bring other risk factors with them) is at elevated risk of reading difficulty. It has been widely documented that even middle-class children attending generally low-ranked schools do poorly. The consistently poor performance of such schools suggests the absence of a coherent strategy for teaching reading, a paucity of attentive teachers with high expectations for student success, and/or the adoption of unsuccessful approaches to teaching reading.
- Having low proficiency in English. Latino children are about twice as likely as Anglo children to read below average for their age. Although it is difficult to sort out precisely what percentage of the elevated risk of Latino children can be attributed to low proficiency in English (since many Latinos are native English speakers), clearly poor English skills at the time that reading instruction commences constitutes one source of risk. This risk cannot be attributed primarily to the child; it represents a failure of the educational system to develop adequate methods for introducing such children to literacy and ambivalence about the role of Spanish in their literacy instruction.
- Speaking a nonstandard dialect of English. Children who speak dialects of English identified with poverty, ethnic minorities, or immigrant groups (such as Caribbean or Indian English) are at elevated risk of literacy difficulties. It is not entirely clear whether these difficulties can be attributed directly to the children's

unfamiliarity with standard English, the poverty and limited education of the families from which they come, the reactions school personnel have to nonstandard speakers, or problems of mapping their own phonological system onto the phoneme-grapheme correspondences being taught. Thus, although we know that nonstandard speakers, like non-English speakers, need special attention and better-than-average instruction, we cannot use the fact of elevated risk as a basis for deciding the cause of the difficulties.

- Living in a community of poverty. Coming from a home with limited financial and educational resources is, in and of itself, not a major risk factor. However, living in such a home when it is located in a community composed of similarly situated families, and with the high likelihood that the neighborhood school will show generally poor achievement levels, does constitute a major risk.

Individual risk factors, which may and often do coincide with the group risks, include the following:

- Delayed or disordered language development. Children with a history of language problems are very likely to encounter difficulties in learning to read. Reading builds on the child's analysis of his or her own phonological, lexical, and grammatical knowledge. Children for whom such knowledge is shaky, still developing, and poorly consolidated are on much shakier ground when asked to engage in metalinguistic tasks such as performing phoneme segmentation, learning sound-symbol correspondences, or writing.
- Hearing impairments. The deaf population in general shows poor reading achievement. In fact, deaf children must learn English as a second language, just as native speakers of Spanish or Chinese do, and they are additionally challenged by the difference in mode between their native language (a gesture-based system) and the aural-oral mode of English. Although deaf children can learn enough about the alphabetic system to read at a third- or fourth-grade level, evidently the inaccessibility of a phonological representation of English makes further progress extremely difficult for many.
- Developmental delays or disorders. Children with any of a wide variety of developmental challenges-mental retardation, emotional problems, attention deficits-will find learning to read more difficult

than children without such risks. It is worthy of note that there is very high comorbidity for emotional problems and communication disorders and that approximately 50 percent of children with attention deficit disorder also have diagnosed language problems. The documented comorbidity rates may reflect a deeper reality that early in childhood, any developmental problem is likely to be reflected in a variety of domains. Reading, as a challenging problem area, is likely to be one of the affected domains.

Who Is at Risk in the Adult Population?

To discuss those parts of PRD that might relate to practice and research in the fields of adult basic education and adult education in English for speakers of other languages, we first need to summarize what is known about the demographic characteristics of adult literacy students and then what is known about the reading accomplishments of this population.

Not surprisingly, many adult literacy students embody some of the demographic risk factors associated with early reading difficulties in PRD and in previous national reports on reading (National Assessment of Educational Progress, 1995; Anderson, Hiebert, Scott, & Wilkinson, 1985)-factors such as poverty and membership in ethnic or linguistic minority groups. As noted in PRD, poverty is not by itself necessarily a risk factor for reading, but economic disadvantages are strongly associated with other risk factors, such as having fewer literacy-building experiences in early childhood and receiving poor-quality schooling.

Since the mid-1970s researchers have consistently described the U.S. adult literacy population in similar socioeconomic terms: most students are poor or low income, minority groups are disproportionately represented, and increasing numbers are not native speakers of English (Cook, 1977; Hunter & Harman, 1985; Kirsch, Jungeblut, Jenkins, & Kolstad, 1993; Sticht, 1988, 1998). Despite occasional reports of financially successful people who have reading difficulties (Johnston, 1985), adult literacy classes are overwhelmingly composed of the poor, the underemployed, and the unemployed.

Why are we bothering to restate the obvious: that adult literacy students come from poor, educationally disadvantaged backgrounds? As we turn to describing the kinds of reading difficulties ABE/ESOL students face, we want to keep in mind the interaction of their academic difficulties with their life histories and current socioeconomic circumstances. Like other human activities, reading ability develops in various social contexts over time. So, for example, when we discuss the vocabulary knowledge of adult students, we will also discuss how their childhood and adult exposure to words may have influenced its development.

SKILLED READING

PRD is focused on the period from birth through third grade, a crucial time in language and literacy acquisition. Through school-based instruction and independent reading, children learn to decode words independently, become automatic and fluent at word recognition, and begin to develop the skills in reading to learn that will allow them to use reading as a lifelong tool for education and enjoyment.

How Does Literacy Develop Through Grade 3?

PRD identifies several domains of development that are crucial to the emergence of solid literacy skills during the early school years.

COGNITIVE, EMOTIONAL, AND SOCIAL DEVELOPMENT. It should be clear that reading, a complex achievement, is more likely to develop in a risk-free way in children who are healthy and physiologically intact and show normal developments in the domains of cognition (in particular, understanding symbolization), emotionality and attention, and sociability.

LANGUAGE DEVELOPMENT. Children start to produce language sometime around their first birthday, but if they have been exposed to sufficient spoken language, they have already organized their speech discrimination systems to match the language they will learn. Children also typically understand several words or phrases before they start to speak. Children's language development is a prerequisite to reading in some indirect and direct ways.

First, the texts children use when they first learn to read are composed of words and grammatical structures. Children who know those words and structures orally will have easier access to meaning through reading. Second, as children acquire more vocabulary words, they become increasingly sensitive to the internal differences in the sounds and sequences of sounds of those words-awareness that is crucial to mastering the alphabetic principle. Third, children who have the opportunity to use language in a wide variety of communicative tasks learn about the different forms of communication appropriate to different situations-that talking on the telephone requires giving more explicit information than chatting face to face, that telling stories requires sequencing events, that talking about fantasy worlds and hypotheses requires forms like pretend, suppose, and if. In every respect, the progress of language development during the preschool and early school years must be seen as one aspect of literacy development.

PHONOLOGICAL AWARENESS. For children learning to read an alphabetic language such as English, phonological awareness constitutes a precursor to reading in its own right. Phonological awareness refers to

the ability to focus on the sounds of language rather than the meaning. Early evidence of children's phonological awareness often comes from their language play (willy, wally, wooly), their enjoyment or production of rhymes (cat, sat, fat, pat), or their ability to question language forms (Is his name Rory because he makes so much noise?).

Language segmentation abilities also reveal phonological awareness; typically young children can segment a sentence into meaningful units (The little girl/ate/lots of ice cream.), but only at about age four will children reliably isolate meaningless, grammatical words such as the and of as separate units. Four year olds can typically be shown how to separate syllables as well; syllables are relatively accessible, pronounceable units. Much more challenging is the ability to segment a word or syllable into its component sounds (phonemes): recognizing, for example, that cat has three parts, /c/, /a/, and /t/. Children who understand this are said to have achieved phonemic awareness, important because it is crucial in learning to read English to understand that letters stand for phonemes, not syllables or words.

Phonemic awareness develops gradually. A relatively easy phonemic awareness task involves removing the first "little bit" from a word (say the name Fred without the fff) or thinking of words that start with the same sound. Segmenting or matching on final sounds is more difficult. Removing medial sounds (say Fred without the rrrr) is extremely hard. While research makes clear that phonemic awareness continues to develop during the early stages of conventional reading, it is clear that children with no capacity to recognize, segment, or attend to individual phonemes will have a very hard time understanding phonics-based instruction, which presupposes such understanding.

LITERACY DEVELOPMENT. By literacy development, we mean development of understandings about the functions and uses of print, an understanding that language used in books may differ in certain ways from that used orally, an appreciation for literacy activities, as well as the development of the skills of reading and writing in conventional ways. Children arrive at school with vastly different amounts and kinds of experience in using literacy or seeing literacy used in their homes. Those who have had lots of chances to be read to, practice writing or scribbling, use magnetic letters (of the sort that attach to the refrigerator door), recognize letters and words in print they see in their daily environments, and so on will be much better prepared for reading instruction.

Is There Development in Reading After Grade 3?

Of course, considerable development in language and literacy occurs beyond third grade, even for learners who are progressing as expected in literacy. A comparison of the books read by children at the end of third

grade and those read by children even just a few years older makes clear how much is left to learn after the basic reading skills are established. Older readers can handle a wider variety of text types, a much higher incidence of rare or unknown vocabulary items, and more complex sentences and rhetorical structures; they can understand literary devices signaling irony, sarcasm, humor, multiple perspectives, violations of the time line, hypothetical and counterfactual reasoning, and much more.

ADVANCED LANGUAGE SKILLS. These developments in literacy skills parallel enormous developments after grade 3 in children's oral language skills. The new language skills typical of this developmental period have been variously referred to as decontextualized (Snow, 1983) or focused (Scollon & Scollon, 1982), as oral literacy (Tannen, 1982), and as extended discourse skills (Ninio & Snow, 1996). All of these terms refer to the characteristic that language can be used in a more autonomous way-to create realities rather than just referring to reality and to represent relatively complex states of affairs. Often these uses of language are also reflexive and analytic. Giving definitions, for example, requires that children analyze their own knowledge of word meanings and figure out which aspects of what they know about a word are likely to be shared. This decontextualized, or extended, use of language is relevant to literacy precisely because the texts that older children come to read use this sort of language. They are likely to be introducing novel, often complex information in ways that presuppose little shared background information and with the pragmatic features typical of distanced communication. Such texts create demands that are quite different from those of primary grade readings; early texts are mostly narratives, using only the few thousand most common words of English, telling about relatively familiar sorts of individuals and events, appearing together with contextualizing pictures, and benefiting from support for comprehension through instructional activities.

The presentation of more decontextualized texts to slightly older children may indeed generate new cases of reading difficulties even among children who have developed as expected through grade 3. More likely, though, the children who found the texts of the later elementary grades impossible to comprehend were showing some difficulties at earlier stages of reading as well, but perhaps slight enough that they were masked by strengths in some components of the reading process.

MATTHEW EFFECTS. The organizing metaphor of "Matthew effects" was introduced to the field of reading by Keith Stanovich (1986) to explain the development of individual differences in both reading and more general cognitive functioning in verbal areas. It takes its name from the "rich get richer and the poor get poorer" discussion in the Gospel according to Matthew. Interweaving inherited and environmental factors,

Stanovich argued that relatively small cognitive differences (especially in phonological processing) among young children can lead to wide and socially significant differences in adult outcomes, not just in reading but in verbal intelligence.

Here is a schematic version of how Matthew effects might play out. If a child has a phonological processing difficulty at the outset of reading instruction, then the acquisition of word analysis skills in kindergarten and first grade may be imperiled. If word analysis skills are not developed, then the child's decoding (the ability to figure out the pronunciations of unknown words independently) is compromised. In addition, her ability to progress from analyzing letter sounds to orthographic processing (recognizing letter and syllable patterns as units) may not develop adequately. If the child cannot decode independently, then it is more difficult and frustrating for her to practice reading independently. If the child cannot practice reading independently, then fluent reading may fail to develop by the end of third grade. If fluent reading is not in place by the end of third grade, there are at least two results.

First, reading is less enjoyable, leading the child to read less (thus adversely affecting fluency itself). Second, if fluent reading fails to develop, then reading to learn in the later grades is imperiled for two related reasons: first, because the child must devote too much effort to word recognition, leaving insufficient resources to devote to comprehension (Perfetti, 1985), and, second, because when reading is disfluent and slow, the longer clauses and sentences that increasingly occur in content passages in the middle grades cannot be processed as effectively. If the ability to read to learn does not develop sufficiently, the child's ability to use reading to acquire vocabulary and concepts is affected, and schoolwork becomes increasingly difficult. Since knowledge in school subjects is cumulative, incomplete acquisition of basic vocabulary and background concepts in middle school can imperil high school learning.

Notice that even in this brief schematic representation of what Stanovich called a "cascade" of reading difficulties, cognitive-neurological factors are reciprocally related to behavioral-environmental factors. For example, the early phonological difficulty (of presumed neurological-cognitive origin) ultimately leads to the behavioral consequence of reading less, which impedes the acquisition of the cognitive skills in automatic word recognition. Stanovich also raised the issue that reading ability and verbal IQ are reciprocally related, especially as readers move into adulthood. (See also Stanovich, 1991, and Siegel, 1989.) In practice this means that a forty-five-year-old adult who has been a lifelong nonreader is likely to score lower on verbal IQ tests than a forty-five-

year-old who has been a lifelong reader; this is because the nonreader could not use reading to acquire some of the skills and knowledge needed for such tests.

With respect to the ABE/ESOL population, Stanovich's (1986) discussion of social environmental factors is especially relevant. The development of phonological awareness seems to have a strong inherited component, but it is probably also strongly influenced by the child's exposure to oral language in infancy and early childhood. If a child's exposure to oral language is substantially limited, comprising substantially fewer words and phoneme distinctions, then he may have fewer sounds on which to practice and develop his phonological awareness.

In a study of preschool children's vocabulary learning, Hart and Risley (1995) found that children of welfare families had far fewer language interactions with adults and were exposed to far fewer different words than were children from working-class and middle-class families. As a consequence, the children from welfare families not only knew the meanings of fewer words than the other children, but they were acquiring new vocabulary at a much slower rate, falling increasingly behind the other children in vocabulary knowledge with the passage of time. Thus, it is possible that the vocabulary difficulties of some ABE students began long before school, in early childhood, with the establishment of slower rates of vocabulary learning and less developed schema for learning new words.

WHERE ARE ADULT LITERACY STUDENTS ON THIS DEVELOPMENTAL CONTINUUM? ABE and some ESOL students can be found at every point along this schematic representation of reading difficulties. Some students appear stalled at early stages of reading by severe unremediated phonological difficulties. However, it is much more common for ABE/ESOL students to enroll with partial or incomplete development of the various reading skills: partial acquisition of phonological awareness (reflected in decoding problems and poor spelling), fluency lagging the equivalent of several grade levels (often called grade equivalents, or GEs)² behind untimed silent comprehension, vocabulary levels lagging behind their years of school completion, and background knowledge in the content areas stalled below 5 GE.

Until recently, many ABE programs were unaware of difficulties in decoding and fluency, particularly among students reading above 5 GE in silent reading (Strucker, 1997). Indeed, in programs where teachers were advised not to ask adults to do oral reading because it was not an "authentic" literacy act, decoding and fluency problems could go undetected for months or years. But if current models of the reading

process are accurate (Chall, 1983; Perfetti, 1985; Stanovich, 1986; Adams, 1994; Snow, Burns, & Griffin, 1998), poor decoding and lack of fluency will greatly impede the acquisition of levels of vocabulary and content knowledge that students need to pass the General Educational Development (GED) tests. Even modest gains in those processing areas can lead to substantial gains in comprehension for ABE learners.

What Does It Take to Be a Skilled Reader?

Although there has been considerable controversy about the nature of skilled reading and the degree to which all skilled readers are similar to one another, in recent years a consensus has developed among researchers, who agree that skilled readers can do the following:

- Read all or most of the words on the page
- Notice most of the letters in each word and use the letters to access a phonological representation of the word
- Read words quickly because they have automatized the processes of letter recognition and phonological access through practice
- Rely heavily on context cues for comprehension
- Use context cues only minimally for word recognition, which is primarily driven by using letters to access sounds
- Almost always read with a purpose, focus on meaning, and self-monitor their comprehension

Research comparing skilled and less skilled readers at any age or grade level typically finds differences in a wide variety of dimensions. Skilled readers are better than age-matched poorer readers in vocabulary, world knowledge, literal as well as inferential comprehension, and comprehension monitoring and repair strategies. Skilled readers are also typically better than poorer readers in various skills relevant to word identification (getting to the right pronunciation) and lexical access (getting to the right word), knowledge of how spelling patterns relate to pronunciation, sensitivity to relative frequency of letter strings, speed of word reading, and use of context to select the right meaning for homographs (different words spelled the same way).

The development of these reading skills rests on an appreciation of the alphabetic principle—knowledge that letters represent phonemes—and mastery of that principle through large amounts of practice reading. Practice in reading produces fluency, or the ability to read relatively quickly and without conscious attention to the process of word identification. Without some level of fluency, comprehension of longer texts is very difficult, because the construction of meaning is disrupted by the difficulty and slowness of word recognition.

Among the six opportunities to learn, three relate specifically to this model of skilled reading: children need opportunities to learn and master the alphabetic principle, focus on reading for meaning at every stage of instruction, and have enough opportunities to practice reading to achieve fluency. The fourth opportunity—to develop enthusiasm about literacy—is crucial. Most children encounter obstacles somewhere along the road to literacy, and without a clear understanding of how important and potentially pleasurable literacy achievement is, they are unlikely to persist.

Conclusions Concerning Skilled Reading

It should be clear that in discussing either children or adults, we start from three assumptions about reading.

First, skilled reading is the product of a developmental process that starts early in life and changes both qualitatively and quantitatively as readers grow older and experience literacy more widely.

Second, although advanced readers experience reading as a seamless process, it is helpful to view reading as the product of several different lines of development and to view skilled reading as the integration of several components (visual word identification, phonological access, lexical access, monitoring for comprehension, and so on).

Third, the relationships between the components change as the reader develops (Stanovich, 1986; Chall, 1983; Curtis, 1980). For example, when beginning readers are learning letter-sound correspondences (word analysis or phonics), they usually prefer that skill on text that contains highly familiar words. This allows them to map the letter combinations onto words whose phonological representations are well known and easily accessible. They are not expected to learn new words at the same time they are learning the alphabetic principle. However, within a few years after learning to read, successful readers are reading to learn and using reading itself to expand and deepen their vocabulary knowledge. At this stage of reading development, it is crucial that they read text with new and sufficiently challenging vocabulary and concepts. The word analysis skills that were an important focus of instruction for the beginning reader have become automatized, making fluent word recognition possible. At this stage word analysis skills are consciously employed only when decoding and spelling unfamiliar words.

THE ADULT BASIC EDUCATION POPULATION

In reviewing PRD, some adult educators may argue that not many of their students currently fall within this 0 to 3 GE beginning level of reading achievement. But as the estimates that follow suggest, a surprisingly large percentage of adults attending literacy programs fall

directly within this category in reading. Of course, it is rare to find adults (except for ESOL beginners in English) who have not developed sufficient oral language skills to support initial reading instruction.

To What Members of the ABE Population Is PRD Relevant?

It is impossible to say with precision what percentage of the students in the ABE/ESOL system read at 3 GE or below. Not all ABE students (especially those below 4 GE) are given norm-referenced tests in reading, and when they are tested, they are usually not assessed with the same instruments nationwide or even from one center to another within most states. To complicate matters further, in some areas of the United States many beginning adult readers are served by volunteer tutoring programs that may not use norm-referenced tests or keep centralized records. A preliminary analysis of data from the forthcoming Adult Reading Components Study (ARCS) by Strucker and Davidson indicates that about 9 percent of the students enrolled in ABE classes scored below 4 GE on a silent reading comprehension test.³

Reder (1997) analyzed four databases, including the National Adult Literacy Survey (NALS) (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993),⁴ to define the characteristics and participation of "first-level learners," the target population for basic literacy services. Of the 15 million adult, native speakers of English, ages sixteen and above, estimated to function at NALS Level 1, approximately 6 million function at the lowest levels of Level 1 (Reder, 1997). Although the NALS was not designed to map directly onto grade-equivalent scores, it seems likely that many of these 6 million adults read approximately at 3 GE or below.

ESOL enrollments of students below 3 GE present a different picture. By definition, nearly all adults enrolling in beginning ESOL classes would be likely to have limited English reading skills until they have learned how to decode English and have learned enough English vocabulary to read at above 3 GE in English. How many of these students are there? In 1996, the U.S. Department of Education's Office of Vocational and Adult Education (OVAE) reported that about 40 percent of all U.S. adult basic education students were enrolled in ESOL classes. Estimating that one-third of these 40 percent were enrolled in beginning ESOL classes (a conservative estimate because in many areas beginning ESOL is more heavily enrolled than intermediate or advanced), this means that at least 13 percent of the total U.S. enrollment in ESOL classes is made up of students reading English at 3 GE or below.

Taken together with Strucker and Davidson's preliminary estimate of 9 percent of native speakers reading at 3 GE or below, this means that more than 20 percent of the ABE/ESOL population may actually be reading at or below the level directly addressed by the PRD.

The relevance of the report is not restricted to adult students who are currently reading at 3 GE or below. In addition to those adults reading at 3 GE or below, many more ABE students and some ESOL students may have experienced significant difficulties in language and reading at these early stages of development when they were children. Some of these students may have completely overcome the early reading problems, but for others their early difficulties continue to affect their subsequent progress. Thus, we will be discussing not only what is known from the research about adult readers at 3 GE and below but also what is known about the range of adult readers—from beginners all the way through GED candidates.

What Is Known About ABE and ESOL Students as Readers?

At the outset we must admit that we have to restrict much of our discussion to ABE readers because little research has been done on adult ESOL reading in populations other than students at universities. The National Adult Literacy Survey (NALS) (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993) provided a rich and rigorously developed picture of the functional literacy skills of U.S. residents aged sixteen to sixty-five by showing what proportion of adults were able to perform simulated real-world literacy tasks at various levels. However, its assessments were not designed to shed light on why a given reader or groups of readers might have had difficulty with various NALS literacy tasks. Although it is likely that most adults enrolled in ABE/ESOL programs would end up in the two lowest levels of the NALS, the precise reading difficulties that led to these results cannot be inferred from the NALS data.

Our best sources of information on the reading difficulties of adults come from reading clinics (Johnson & Blalock, 1987; Chall, 1994). Based on adult readers' profiles from the Harvard Adult Literacy Initiative, Chall (1994) made the following observations:

When we had assessed and taught about 100 adults, we began to be aware of two patterns of scores—one that was common among adults for whom English was a second language; the other resembled the patterns of strengths and weaknesses found among children and adults who tend to be diagnosed as having learning disabilities.

We found the ESL group ... to be relatively stronger in the ... word recognition or print aspects of reading, as distinguished from the meaning or comprehension aspects. The "learning disability" pattern ...[includes] ... adults ... who are relatively stronger in word meaning and relatively weaker in the print aspects of reading—word recognition and analysis, spelling,

and oral reading.

Other researchers have documented the presence of learning disabilities and reading disabilities in the adult literacy population. Read and Ruyter (1985) and Read (1988a, 1988b), in studies of prison inmates, found that a majority of those who were reading below high school levels showed signs of moderate to severe decoding and word recognition problems, which the researchers believed were rooted in phonological processing deficits. In a reading/age-matched study, Pratt and Brady (1988) found that the low-literacy adults they tested resembled reading-disabled children rather than normally progressing elementary school readers, based on decoding and phonological processing difficulties among those adults.

A number of investigators have documented the persistence of childhood reading disabilities into adulthood (Bruck, 1990, 1992; Johnson & Blalock, 1987; Fink, 1998; Strucker, 1995, 1997; Spreen & Haaf, 1986). Bruck's research focused on people who had been reading disabled as children but had managed to become relatively successful adult readers. She found that even those successful adult readers still had difficulty with phoneme deletion tasks that most children have mastered by the end of third grade. Fink's research (1998) with highly successful adult dyslexics indicated that despite attaining high levels of silent reading comprehension, many of her subjects continued to exhibit spelling difficulties and slow rates of reading.

In a cluster analysis study of 120 adult literacy students in Massachusetts, Strucker (1995, 1997) found strong evidence to confirm Chall's observation that adult literacy students tend to fall into either the reading-disabled or ESOL categories. Of a total of nine clusters of adult learners, from beginners through GED levels, five clusters strongly conformed to Chall's twofold characterization (see Figures 2.1 and 2.2). Two apparently "learning-disabled" clusters emerged in which the learners were much stronger in the meaning-based aspects of reading (vocabulary and comprehension) than in the print aspects (phonological awareness, word analysis, word recognition, spelling, and oral reading). These two clusters were made up exclusively of native speakers of English, with more than 95 percent of the cluster members reporting that they had received "extra help" in reading when they were children, ranging from one-on-one tutoring and Chapter 1 or Title 1 placement (66 percent) to formal classification as learning disabled by school authorities (29 percent). Three other clusters were made up of 75 percent ESOL learners who were much stronger in the print aspects (phonological awareness, word analysis, word recognition, spelling, and oral reading) and much weaker in the meaning-based aspects of reading

(vocabulary and comprehension).

Interestingly, the remaining 25 percent of the learners in those three "ESOL" clusters were actually native speakers of English; they were young adults of various ethnic backgrounds who had dropped out of inner-city schools. These young adults resembled the inner-city children described by Chall, Jacobs, and Baldwin (1990) in that they had no significant phonological or word recognition difficulties but had apparently not developed the literate vocabularies in middle school and high school reading that would support comprehension at levels beyond 4½ GE.

Strucker also found strong evidence of childhood reading difficulties in the remaining four clusters. In both beginners' clusters and both GED-level clusters, an average of 58 percent of the learners reported receiving some form of "extra help" as defined above. (Not every learner in this study who may have been reading disabled was diagnosed in childhood. Generally people who are more than fifty years old attended school before such determinations were formalized.)

The NALS touched briefly on the incidence of learning disabilities in the population as a whole by asking a single yes/no question: "Do you currently have a learning disability?" Reder (1995) analyzed responses to that question with respect to years of school completion, economic attainment, and NALS level attainment. Among native speakers of English in the sample as a whole, 2.8 percent answered this question in the affirmative, but among the Level 1 participants, this figure was 9.5 percent, dropping to 0.24 percent among Level 5 participants. Reder concluded, "Learning disabilities are concentrated primarily among adults at the lowest literacy level."

CASE HISTORIES OF SIX ADULT LEARNERS

To make our discussion of adult learners more concrete, we present six brief case histories of typical adult learners from Boston-area adult literacy centers and the Harvard Adult Reading Laboratory (Strucker, 1995, 1997). Strucker (1995) tested 120 adults using six components of reading (word analysis or phonics, word recognition, spelling, oral reading, silent reading comprehension, and oral vocabulary) and also conducted a brief test of phonemic awareness. (See the chapter appendix for an explanation of the assessments used.) Each student's score on these measures made up his or her reading profile. The 120 individual profiles were then subjected to cluster analysis, with the result that nine clusters of adult readers emerged, ranging from beginning levels of reading all the way up through GED. The individuals whose stories are presented

here had reading test scores and educational backgrounds typical of students in their respective clusters. Their real names are not used here.

Joseph, a Beginning Reader

At the time of testing in 1994, Joseph, an African American living in Boston, was fifty-nine years old. He had grown up on the outskirts of a small town in South Carolina, where his family were sharecroppers raising cotton and tobacco. He reported that his father could read "a little" but that his mother was completely illiterate. His test scores as an adult indicated that he could recognize words at an early first-grade level and had not mastered the most basic levels of word analysis skills. Joseph was unable to read the 3 GE reading comprehension passage, the lowest GE available in the battery used. His oral vocabulary at 5 GE was actually slightly higher than that of many adult nonreaders from working-class backgrounds. Following is his reading profile:

Rosner 1 GE6
Word analysis 1 GE
Word recognition 1 GE
Spelling 1.5 GE
Oral reading 1 GE
Comprehension Not attempted
Oral vocabulary 5 GE

Joseph is a living compendium of the risk factors, both social and personal, identified in PRD. He attended a segregated, rural school that was a two-mile walk from his home and where, based on his reports, he received poor-quality reading instruction. Classes were large, and what few books there were could not be taken home. His only memories of reading instruction were of the teacher's writing words on the blackboard and the children being asked to spell them letter by letter, and then being asked to read them.⁷ After his father died, when Joseph was eight years old, he had to work in the fields for most of the year to contribute to the family income, and he attended school only sporadically from that point on, eventually dropping out permanently at age sixteen. Poor-quality schools coupled with poor attendance was a common experience among low-literacy adults of Joseph's generation, especially if they grew up in rural areas.

Based on current phonemic awareness testing and subsequent attempts to teach the alphabetic principle to Joseph using a variety of methods, we feel it is likely that Joseph has a phonologically based reading disability. A subsequent evaluation at the Massachusetts General Hospital Speech and Communications Disorders Program confirmed these observations. This basic phonological processing difficulty was discussed at length in

PRD as the most prevalent personal risk factor for early reading problems.

We cannot tell with certainty how severe Joseph's phonological disability was when he was a child. Results of intervention studies cited in PRD suggest that if children with moderate disabilities in this area receive early instruction in phonological awareness, their rates of reading failure can be greatly reduced. (See summaries of this research by Blachman, 1994, 1997.) These kinds of early interventions did not exist when Joseph started school in the late 1930s. We can only speculate on what might have been the results if he had been given such help. Phonological development in children not only contributes to reading success; reading and spelling themselves probably contribute reciprocally to phonological development (Blachman, 1997). In Joseph's case, fifty years of not reading or spelling may have caused whatever limited phoneme awareness skills he possessed as a child to deteriorate. As is often the case with ABE students, Joseph's personal risk factors for reading difficulties, such as his inherited phonological difficulties, were undoubtedly exacerbated by social risk factors: his lack of exposure to reading and books as a young child and the particularly inadequate reading instruction he reported receiving in school.

Despite this formidable array of risk factors, Joseph has enjoyed considerable success in life. He worked in a number of factories from the 1950s to 1980s, rising to low-level supervisory positions in some of them through his hard work and excellent interpersonal skills. Joseph married a woman who was a high school graduate, and once their children were grown he worked overtime so that she could attend college and eventually earn a master's degree in business administration. They own a triple-decker home in Boston and have raised three children, and his wife now uses her computer and accounting skills to manage their small trucking company, which also employs their sons. She and the sons draw special maps for Joseph to follow when he has to make a delivery to an unfamiliar location, and she helps him study for truck driving licensing tests. Joseph is the treasurer of his church, but he would like to be able to read from the Bible at services and teach Sunday school.

In many ways Joseph resembles the low-literacy adults described by Fingeret (1983) who are able to rely on family members and networks of friends to help them successfully negotiate the world of print. Still, Joseph's accomplishments are remarkable even in the context of the 1950s, 1960s, and 1970s, when workers with minimal reading skills could find steady employment at good wages in factories. In today's job market Joseph's success would be much harder to replicate without basic literacy skills.

Richard, a More Advanced Beginner

Richard was born in a city near Boston; he is the son of West Indian immigrants. He was twenty-four years old and unmarried when he was tested in 1994. He had enrolled in ABE classes because he wanted to earn a high school diploma in order to enlist in the military. Richard's mother worked as a secretary most of his life, and he and his siblings were read to as children; they were expected to do well in school. His older sister graduated from college. Richard's K-12 schooling, however, featured many interruptions because his mother moved frequently up and down the East Coast during his childhood:

I was never in kindergarten at all, and during first, second, and third grade we moved all the time. [Teachers] didn't really deal with my reading problems because by the time they noticed them, we had moved.... I'm still very hurt to this day.... If I'd had an education, I could have done anything.

Eventually, when he was in fifth grade, Richard's teachers did more than notice his reading problems; he was placed in special education classes from middle school on, and he received remedial reading instruction. In high school he was a popular, outgoing student and earned varsity letters in football and basketball. Because he was bright, well spoken, and a good athlete, his friends assumed he would go on to college with a scholarship. In reality, however, Richard's reading had remained stalled at primary school levels.

In the middle of his junior year in high school, his mother moved the family to Florida. Richard reenrolled in school there but dropped out to take on a full-time job in a fast food restaurant. A year later he returned to Boston, where he has since worked in a number of jobs, including security guard, dishwasher, and clothing salesman.

Here is Richard's reading profile:

Rosner 1.5 GE
Word analysis 1.5 GE8
Word recognition 2 GE
Spelling 1.5 GE
Oral reading 4 GE
Comprehension 4 GE
Oral vocabulary 6 GE

Richard's print skills (word analysis, word recognition, and spelling) were much weaker than his meaning-related skills (oral reading, comprehension, and oral vocabulary). His grade-equivalent adult scores

should not automatically be interpreted to mean that he is identical to a first grader in word analysis or identical to a sixth grader in oral vocabulary. The miscue patterns of adults and children can be very different. In vocabulary, for example, Richard probably knows many words he has learned through his work experience and adult life that a sixth grader might not know, while a sixth grader might have learned the meanings of social studies and science words in school that Richard's reading difficulties prevented him from learning when he was that age.

Richard's basic word analysis skills were incomplete, and he seemed to lack confidence in the skills he possessed. His phonemic awareness was comparable with what would be expected at the end of first grade. His word recognition and oral reading miscues involved guesses based on the first few letters of a word and its overall shape, again with much uncertainty about vowels: witch for watch, courage for carriage, and nicest for notice, for example. However, in the oral reading of passages, he was able to use the context to monitor and self-correct some of his decoding mistakes. Although Richard scored at 4 GE in oral reading, his reading was not fluent; it contained several self-corrections, hesitations, and repetitions.

Silent reading comprehension was an area of relative strength for Richard, but he took more than ten minutes to read and answer four questions on the 100-word 4 GE passage, suggesting much rereading and self-correcting as he laboriously constructed the meaning of the passage. At 6 GE, Richard's oral vocabulary was his strongest skill overall. However, some responses reflected his word analysis and phonological difficulties: he described the word console as, "When you put something where you can't see it," confusing it with conceal. Other responses were vague and imprecise: the environment, he said, is "a place you like."

Richard's severe difficulties with decoding and spelling led to his placement in an adult reading class that focused on developing reading fluency and accuracy. Even though silent reading comprehension skills were not explicitly emphasized in this class (although lots of fiction, poetry, and plays were read), after five months Richard began to score at or above 6 GE in silent reading tests, as long as they were administered untimed. It appeared that his modest progress in the print aspects of reading had begun to help him unlock his strengths in the meaning aspects of reading.

Based on his adult testing, it is very clear that he is burdened by the kinds of phonological difficulties identified in PRD, so it is not surprising that Richard was eventually identified by the public schools as in need of extra help in basic reading. Unfortunately he did not get this help until he was in the fifth grade and already several years behind in reading.

Moreover, we have no information about the nature of the help he received. If the recommendations in PRD had been followed when Richard was a young child, his potential reading difficulties would have been identified much earlier.

Moving from one school district to another, as Richard's family did, is bound to constitute a risk factor for any child, and this is especially true for children with reading disabilities. We can hope that PRD will help to make classroom teachers more aware of the need to evaluate a new student's reading immediately, perhaps simply by using an informal reading inventory, so that even children who must change schools frequently can receive extra help in reading as early as possible.

After a year of adult reading classes, Richard had to drop out to work two jobs to help support his mother when she became ill. As in childhood, Richard's education had once again been interrupted.

Comparing Richard with the previous student, Joseph, is instructive, because both appear to have roughly similar risk factors in the area of phonological processing. However, the social and historical milieus in which their reading developed were quite dissimilar. Joseph's parents were not literate, few books were available in his childhood, and he attended poor, rural schools. Richard's mother was highly literate, and Richard attended urban schools some forty years later, when it was routine to diagnose and attempt to treat children with reading disabilities. The practical difference between Richard's word recognition score at 2 GE and Joseph's at 1 GE is much greater than a one-grade difference might mean at higher levels—for example, between 7 GE and 8 GE. As a result of his eleven years of schooling, including some direct help in reading, Richard can recognize enough words to be able to perform somewhat laboriously in oral reading at 4 GE and equally laboriously in silent reading at 4 GE as well, relying heavily in both areas on his context analytical skills. Joseph, on the other hand, recognizes too few words to be able to do any meaningful independent reading at all—too few words to be able to create a context to analyze. Because Richard's sister and many of his high school friends graduated from college, Richard locates himself very much in the literate world. He knows that he would need to read independently to reach his career goal of joining the military. Joseph has organized his life so that he can function with external networks of support in literacy. Joseph views himself as generally successful in life; Richard, as yet, does not.

Rose, a Reading-Disabled Intermediate Reader

Rose is a divorced mother of two who grew up in a white blue-collar family in a series of small towns in eastern Massachusetts. She was age twenty-eight at the time this case history was compiled in 1993 and

enrolled in a welfare-to-work program near Boston. Her pattern of reading scores fits that of the reading-disabled adults whom Chall (1994) described. Her print skills (including phoneme awareness) were much weaker than her comprehension and vocabulary skills. Her strong word analysis score suggested that she had, however, mastered basic phonics (consonant sounds and long and short vowels). Reflecting this, her reading of short words was accurate, but she had difficulty on longer, polysyllabic words.

She remembered having a formal evaluation for learning disabilities in kindergarten: "From the beginning I was in special needs [classes]." When asked what extra help she had received in reading, Rose remembered very little attention to her reading. She attributed this to the fact that her schooling occurred during a period of cutbacks in special education and that she and others her age were part of "a lost generation that was just passed on from one year to the next." In fact, she has very few memories of her primary grades at all, except that she got into trouble at school "for always hiding in the closet and refusing to come out." Rose's life outside school was traumatic in the extreme. She was abused sexually during four separate periods in her childhood, from age four through fourteen, by several different male relatives and neighbors. In addition, her mother was an alcoholic who abused her and her siblings verbally and physically.

Rose graduated from high school in a suburb of Boston and went to work as a housekeeper at a hospital. During this time she sometimes experienced cocaine and alcohol problems. She eventually ended up in an abusive marriage to a man with a history of mental illness and violent brushes with the law. Although she tried to leave her husband several times, his threats against her and their children prevented her from doing so. Finally, after he was arrested and imprisoned for the rape of a woman in a shopping center, Rose was able to divorce him. While on welfare, she began to receive counseling and psychotherapy for the first time in her life.

Rose explained that her psychiatrist had not been sure how to characterize her condition. As in some forms of schizophrenia, Rose heard voices, but the voices had names and defined personalities: "Sally," who was passive and accommodating, and "Kevin," who was mean and domineering. Her psychiatrist told Rose that she may have been on the verge of developing "multiple personality disorder" just when her therapy and antipsychotic medication intervened. Rose reported that her therapy had been unusually successful. After eighteen months of treatment, her medication was reduced and eventually discontinued, and her twice-weekly talk therapy sessions were reduced to monthly telephone check-ins with her therapist. After discontinuing the

medication, Rose reported that she still heard the voices occasionally (Sally more than Kevin) but was able to minimize their effects by telling herself "they're both coming from me."

Here is Rose's reading profile:

Rosner 1 GE
Word analysis 3 GE
Word recognition 3 GE
Spelling 3 GE
Oral reading 5 GE
Comprehension 7 GE
Oral vocabulary 6 GE

The profile dates from the period just before her antipsychotic medication was reduced, so it is possible that the medication may have temporarily depressed her functioning in reading. After ten months of twenty-hours-per-week instruction in reading, writing, math, and computer skills, Rose boosted her score on a timed silent reading test to 9.5 GE. She and her teachers felt that this improvement was due partly to the instruction she had received and partly to the fact that she was no longer taking the psychoactive medication. The following fall semester, Rose planned to enroll in a community college woodworking class to develop a portfolio that she could use to apply for a cabinet-making program at a private art school.

Rose's childhood, for all its horror and abuse, did include the presence of books and literacy-related activities in her home. Her teachers seemed to realize that she was in need of special education services, but Rose was unable to remember much about the nature of the help she received in school, so we cannot judge the content or effectiveness of her schooling. Was she placed in special education classes because of poor reading skills or because of troubling behavior stemming from sexual abuse? Was her behavior so troubling that it masked reading problems? In any case, somewhere along the way she acquired basic phonics skills. Building on this firm foundation, her adult education teachers were able to give Rose systematic practice with polysyllabic words and plenty of oral reading. In a relatively short time, her ability to decode longer words improved dramatically, and her silent reading rate also improved from about 100 words per minute to about 160.

Rose's reading disability may have hurt her reading development and educational success less than the extreme psychological trauma of her childhood, teenage, and young adult years. Compared with adults like Joseph or Richard, Rose's reading disability seems quite moderate to

mild. Despite her difficulties with phoneme awareness, word recognition, and spelling, Rose's ability as an adult to improve in decoding at the syllable level with coaching and practice suggests that she is able to use orthographic patterns to read more difficult words. (See Bruck, 1992, Adams, 1994, & Blachman, 1997, on this point concerning how much phoneme awareness is necessary to read.) Like the adults in Bruck's study, Rose has great difficulty with phoneme awareness at the level of manipulating individual sounds, but she is able to perform tasks involving onset and rime, or word families, and use that awareness to read. Typical of readers with word recognition difficulties, Rose's oral reading (where she can use context support) at 5 GE is considerably stronger than her isolated word recognition (where there is no context) at 3 GE.

Rose's story serves as a reminder that when analyzing adult readers, we need to bear in mind more than the social risk factors that may have contributed to their reading development; we also need to consider other aspects of their life histories that have shaped that development. But this is not easy or always possible when it comes to trauma and mental illness. Rose's ABE teachers made what proved to be effective decisions about her reading instruction based solely on her initial reading assessment and ongoing evaluations of her classroom progress, months before she had disclosed to them any of her psychiatric history. But without the success of her psychotherapy, it is unlikely that she would have made the progress in reading that she did. In any case, teachers and researchers need to know more about the effects (both long term and current) of psychiatric and emotional disorders and the medications used to treat them on the reading of adult learners.

Jisette, an Advanced ESOL Student in ABE

Jisette, a native speaker of Spanish who was born in Puerto Rico, was thirty-two years old at the time she was assessed in 1993. Like Rose, she was a divorced mother enrolled in a welfare-to-work program near Boston. At the time of assessment, Jisette spoke fluent, grammatically correct English.

Jisette spent her early years in a small agricultural and marketing town in the mountains of Puerto Rico. There was no kindergarten, so she entered school in first grade at age six. She recalled that learning to read was easy for her: "I read like machine-sometimes too fast.... The teacher used to say I read so fast I äte the punctuation." When she was age eleven, her family moved to Boston, where she was enrolled in a regular (that is, not bilingual, transitional, or ESOL) fifth-grade class. "At first I couldn't understand a word the teacher or other kids said ... but twice a week they took me to this man who spoke Spanish, and that was the only part I liked. He started teaching me English." The ESOL tutoring

continued through sixth grade, when Jisette's family moved to a neighborhood where a bilingual Spanish-English seventh-grade class was available. "I loved this class, and I got my first good grades since leaving Puerto Rico."

But then her family moved back to Puerto Rico, to a small city on the southwest coast of the island. "I had trouble again. The only class I got an 'A' in was English." Her family returned to the Boston area the next year, and Jisette enrolled in high school, where she enjoyed the ninth and tenth grades and developed an interest in modern dance. Then, at age sixteen, halfway through eleventh grade, "I quit like a stupid!"-and she moved in with her boyfriend. At age seventeen she gave birth to her first child. Several years later she met and married another man, and they had four children together. When her husband was jailed for a drug offense, Jisette applied for welfare to support her children. After a period of what she called "deep depression," Jisette joined a Pentecostal church. She credits the church members with giving her the support she needed to divorce her husband and return to school. Her educational goals were to earn a GED and then enter a training program to become a bilingual medical secretary.

Here is Jisette's reading profile:

Rosner 3 GE
Word analysis 3 GE
Word recognition 7 GE
Spelling 3 GE
Oral reading 7 GE
Comprehension 6 GE
Oral vocabulary 4 GE

Jisette's profile closely matches the "ESOL" pattern that Chall (1994) described: her print skills are much stronger than her meaning-based skills. Her miscues in word recognition and oral reading occurred primarily on high-level unfamiliar words, and they reflected confusion between Spanish and English, especially on cognates (eemahgeenahteeve for imaginative) and Spanish/English close cognates (tronkeel for tranquil).

The only factor that might have placed Jisette at risk for early reading failure in English was that she grew up in a Spanish-speaking rather than English-speaking family. The quality of her schooling, from elementary school in Puerto Rico through high school in the United States, seems to have been adequate, but the emotionally disruptive and linguistically confusing effects of her family's moves back and forth between Puerto

Rico and the United States during her middle school years could have placed her at risk. Indeed, these linguistic and cultural switches may have contributed to Jisette's current occasional phonics confusions between the two languages. (Not reading much in either language after leaving high school probably contributed as much to the appearance of these difficulties when she was tested as an adult.) Despite the fact that her first school encounter with English could have been better than a twice-weekly pullout for ESOL tutoring, that tutoring and her bilingual class the following year were ultimately sufficient to help Jisette transfer her Spanish decoding skills to English.

The key to Jisette's success that offset these risk factors and allowed her to become fluent and automatic at English word recognition is probably the fact that she had already become a fluent reader-"like a machine"-in Spanish. A rule of thumb among many experienced teachers of adult ESOL is that if a student has fifth-grade or better reading skills in another alphabetic language, acquiring the alphabetic principle in English is usually not difficult.⁹ This coincides with findings from Collier and Thomas (1988) showing that immigrant children have little long-term difficulty acquiring literacy in English if they arrive after third grade. They often show persistent lags if taught to read first in English. The reverse implications of this rule are important as well. If a student does not have 5 GE skills in NALS Level 1, ESOL teachers will need to teach English phonics more deliberately, following the general recommendations of PRD for children: direct, systematic, sequential teaching of the sound-symbol correspondences coupled with generous amounts of reading in interesting text at the appropriate level of challenge.

Although Jisette's strong decoding skills transferred from Spanish to English, her English vocabulary lagged. Nevertheless, Jisette's initial 4 GE score in oral vocabulary may not have been a true reflection of her long-dormant English vocabulary knowledge. Since leaving high school at age sixteen, Jisette had been living almost entirely among Spanish speakers, and what little reading she had done during this time was also primarily in Spanish. As Sticht (1988) and others have cautioned, when adults have been away from reading, test taking, and school for many years, their initial assessment scores may be unduly low simply because they are a bit rusty. They tend to return to higher, more accurate basal levels of achievement after a few weeks back in school have helped to eliminate this rustiness. In addition, Jisette's 6 GE score in silent reading comprehension suggests that when given context, she is good at figuring out the meanings of unfamiliar words; this strongly suggests that her expressive oral vocabulary test score of 4 GE is lower than the receptive vocabulary knowledge available to her for reading connected text.

Indeed, once in adult education classes, Jissette showed herself to be an exemplary vocabulary learner. She manifested a strong interest in words, took careful notes on word meanings, and asked clarifying questions about the nuances and multiple uses of words she encountered in reading. With a minimal amount of direct instruction, Jissette was able to apply her strong Spanish print skills to make vocabulary associations between Spanish-English cognates. Again, her Spanish reading ability was the key, because Spanish-English cognates are much more apparent in print than in oral language.

Although her attendance was spotty because of her children's frequent bouts with asthma, Jissette, like Rose, made excellent progress in her ten months of classes. By the end of the school year, when she took a timed, norm-referenced test, she had raised her vocabulary to 6.4 GE and her reading comprehension to 8.7 GE. The following year Jissette enrolled in a GED program, after which she planned to exploit her Spanish-English skills by studying to become a bilingual medical secretary.

Terry, a Pre-GED Reader

Terry is an African American, born and raised in Boston. She was twenty-eight years old, the mother of two, and attending a welfare-to-work program when she was assessed in 1993. Terry's parents were both literate: her father was a retired Coast Guard officer and worked for a car dealership, and her mother was a licensed practical nurse.

Terry did not recall having any problems with early reading in kindergarten or first grade. However, her teachers must have detected some difficulties, because she was referred for Title 1 help halfway through first grade.¹⁰ She went to the school's resource room four times a week to work with the reading specialist. At first she was not happy about being pulled from class, "but I liked it once I got to know the teacher and realized I wasn't different from the other kids. The reading teacher was really nice." The Title 1 instruction must have been regarded as successful by her teachers, because it was discontinued after Terry's first-grade year.

Terry's father died when she was in third grade, but the family's economic situation remained sound because their house was paid for and her mother continued to work. Terry reports that she was successful and happy in school through fifth grade:

Then the racial problems [the Boston school busing crisis of 1974] were starting. They were going to send me to ... [school] in South Boston, which my mother did not want, because they were stoning the buses down there. So she sent me to live with my aunt in the suburbs. It was nice there, but

too "country" for me. There were like five black kids in the whole school. But I liked it. I got interested in volleyball and gymnastics and won some trophies.

Two years later, Terry returned to the Boston schools for seventh grade. In May of her eighth-grade year, her mother died of cancer. "I missed my eighth-grade graduation, but one teacher was very nice and took me and my sister out to dinner to make up for it."

Terry and her younger siblings moved in with a friend of their mother, and the following fall Terry entered high school. From the beginning, she recalls, "I got hooked up with the wrong people," and it was during this time that Terry began to have trouble with alcohol.

In the summer following her freshman year, at age fifteen, Terry discovered she was five months pregnant. She did not return to high school but moved in with her older brother, who was living in the family house. However, he was dealing drugs and treated her abusively, so after her son was born, Terry moved out, rented an apartment, and tried to survive on her parents' social security benefits and Aid for Families with Dependent Children (welfare).

In the intervening years, Terry lost and regained custody of her son and enrolled four separate times in ABE programs to try to get her GED. Eventually she moved to a city near Boston, where she now resides with her first child and a second son born in 1992. She was no longer in contact with this child's father and supported both children with grants from welfare. Terry believed that her problems with alcohol kept her from earning her GED or acquiring job training: "Last year when my brother died of AIDS I got scared. Where has my life been going? When I'm not in school and [when I'm] doing nothing, my drinking gets worse and I get depressed."

In 1993 she and her younger son (who was diagnosed with lead poisoning) enrolled in an Even Start Family Literacy Program. Through that program Terry completed her GED in 1995. She planned to enroll in a culinary arts school to become a chef, an interest she acquired as a little girl from her father, who had been a chef in the Coast Guard.

Here is her reading profile:

Rosner 1 GE
Word analysis 3 GE
Word recognition 10 GE
Spelling 5 GE
Oral reading 12 GE

Comprehension 6 GE
Oral vocabulary 7 GE

Despite difficulties with reading in first grade, Terry's print skills were very strong in word analysis and word recognition and relatively strong in oral reading. Terry's surprisingly low phonological awareness and spelling scores may represent the persistence into adulthood of the phonological difficulties (see Bruck, 1992) that perhaps led her teachers to place her in Title 1 when she was a first grader.¹¹ Like Rose, Terry has an excellent grasp of basic phonics at the letter-sound level, possibly as a result of the Title 1 instruction. Terry's spelling miscues were usually phonetically correct, involving the omission of virtually silent letters (government) or reproducing what she heard in her own Boston accent, in which the letter r is often vestigial (excesize for exercise). Terry mastered the 12 GE oral reading passage, but closer scrutiny of her self-corrections, hesitations, and repetitions reveals her level of fluent, effortless reading to be somewhat lower, at about 7½ GE.

Terry's 6 GE score in silent reading comprehension may be lower than her actual level of functioning. She narrowly missed answering a sufficient number of multiple-choice questions correctly to pass the 7 and 8 GE passages, but she gave excellent oral summaries of both passages, and one month later she scored 8.9 GE on a timed test of silent reading comprehension. Terry's expressive vocabulary at 7 GE is typical of pre-GED learners, almost to the point of defining readers in this cluster. The vocabulary development of these students probably slowed after they left high school and did not grow much in literate, academic areas during the intervening years.

In summary, Terry appears to have begun first grade with a personal risk factor in the area of phonological processing (as revealed by her phonological awareness and spelling), but early intervention may have served to minimize its effects on her word recognition and fluency. Her adult reading development seems to be more the product of risk factors that caused her to leave school after ninth grade. This in turn was probably related to family tragedies and dislocations stemming from the deaths of her parents and the historical factor of the Boston school busing crisis of the mid-1970s. Students like Terry remind us that eliminating or minimizing early reading risk factors is not sufficient. Those with multiple risk factors will remain at risk throughout their school years.

In Strucker's 1995 study, the cluster of which Terry was a member had the highest percentage of high school dropouts—higher even than clusters of less skilled readers. Having become relatively strong decoders and fairly fluent readers coming out of third grade, readers like Terry fell behind in the vocabulary and content areas in middle school and high

school, and eventually they dropped out. In these respects they closely resemble the young readers whom Chall, Jacobs, and Baldwin described in *The Reading Crisis* (1990).

Generally the ABE system is quite successful at helping students with a profile like Terry's to earn their GED. In a year or less of work on content-area reading comprehension, math, and essay writing, these students usually gain the mixture of knowledge and test-taking skills they need to pass the GED. One area of concern, however, is that such students often just squeak through with low passing scores; the correspondingly low levels of skills they have attained may make it difficult for them to succeed in postsecondary education and thereby increase their earning power. In a finding that may relate the importance of adequate skills for minority students, Tyler, Murnane, and Willett (in press) concluded that "basic skills matter more in determining the earnings of nonwhites than they do in determining the earnings of young white dropouts."

Brian, an Advanced Adult Reader

Brian is white, and at the time of testing in 1994 he was forty-three years old and unmarried. Although he had graduated from high school in 1970, he was referred to a literacy program for reading assessment by a teacher running a computer accounting course for a local veterans' organization. She was concerned that his 10 GE score in word recognition on a screening test might indicate that he would have trouble understanding the course material. Further assessment revealed that although Brian had substantial spelling and phonics difficulties, he was nevertheless able to comprehend expository text at slightly above 12 GE. With minimal tutoring in writing, Brian completed the accounting course successfully.

Brian came from a literate family: both parents had graduated from high school, and his father was an electrician and his mother was a medical transcriptionist. Brian reported that he and his siblings were read to as children and that books were plentiful in his home when he was growing up. He did not attend kindergarten and began his first-grade year in parochial school, but he reported that he was kicked out for behavior problems and completed first grade in public school. Brian remembered that "reading was a little slow in the beginning... I had a lot of help from my mother, but I did learn to read OK." Spelling was especially difficult for him throughout school, he recalled, and it has remained a problem area for Brian in adult life.

When he was about to enter high school, his parents sent him to live with a childless uncle and aunt in Norfolk, Virginia. "My parents decided there was too much going on here," Brian explained. "It was the '60s and there were a lot of drugs around." He enjoyed living with his uncle and

aunt, and he felt that he became a better reader in high school because of the challenging material he was given to read. He especially remembered how much he enjoyed reading Shakespeare's plays in eleventh grade. "When I turned 18 in 1970," he recalled, "the Vietnam War was on. I had a low number [in the draft lottery], so I enlisted. I spent five years in the Army, two tours in Vietnam. I first started reading on my own in the service because there was nothing to do a lot of the time. I found a series of action-adventure books that I really liked, and I read all of them."

After leaving the army, Brian tried his hand at a number of careers:

My MOS [military occupational specialty] was just infantry, so when I got out I wasn't qualified for anything. I started doing construction and a little carpentry. I went to community college for hotel management, but I didn't finish because the reading was too much. I went back to construction, tried roofing for a while, made storm doors and windows, and even tried starting my own small construction business.

Brian had always made a good living in construction, but he began to worry that once he got into his forties, he would begin to have serious health problems if he stayed in the building trades. It was then that he enrolled in and successfully completed his computer accounting course. He has since found a job in that field.

Although Brian is not an ABE student (he graduated from high school, and the job training program he was enrolled in was not part of the ABE system), he is typical of many adult readers who want to succeed in the postsecondary system. We have included his case study because his adult reading profile suggests that he had some early reading difficulties in first grade that were at least partly overcome with timely help from his mother. But notice Brian's report that in community college: "The reading was too much." This was a fairly common complaint of advanced post-GED level readers in Brian's cluster. Many had tried community college or four-year colleges but dropped out because they had trouble keeping up with the volume of reading and had trouble writing papers.

Here is his reading profile:

Rosner 2 GE
Word analysis 2 GE
Word recognition 10 GE
Spelling 4 GE

Oral reading 12 GE
Comprehension 12 GE
Oral vocabulary 12 GE

Brian's profile is marked by strong meaning-based skills and significantly weaker print-based skills: 12 GE or higher in silent reading comprehension, oral vocabulary, and oral reading, but much weaker scores in phoneme awareness, word analysis, and spelling, and a slightly weaker score in word recognition. Brian's word analysis performance was very weak, especially at the level of individual letter sounds: he was able to supply correctly only thirteen of twenty-one consonant sounds in isolation. Although his oral reading was at least 12 GE, he barely met the minimum error criteria for the 10 GE and 12 GE passages. Moreover, his reading was not fluent; it included numerous repetitions and self-corrections, and by 12 GE had become very slow and labored. Spelling mastery at GE 4 means that Brian was unable to spell correctly 5 GE words such as island, improve, listen, special, and neighbor.

Although Brian reported no formal diagnosis of reading disability in childhood, he resembles the "partially compensated dyslexics" described in a study of successful adult dyslexics (Fink, 1998). The partially compensated dyslexics in Fink's study averaged 16.9 GE (slightly above the fourth year of college) in silent reading comprehension. But on the Diagnostic Assessments in Reading (DAR, the same battery Brian received), 30 percent of this group were below 12 GE in word recognition, 56 percent were below 12 GE in oral reading accuracy, and 79 percent were below 12 GE in spelling. In an oral reading task of real-word passages that included occasional pseudowords, the compensated dyslexic group read at less than one-fourth the rate of normal controls in words per minute (Fink, 1998).

So if a reader like Brian is able to comprehend at or near college level, what is the problem? We need to take into account the actual demands of postsecondary education. Depending on the particular course of study, college programs can require hundreds of pages per week of "reading to learn the new," term papers, and written exams. Although Brian mastered 12 GE in oral reading, his many repetitions and self-corrections at levels 8 through 12 suggest that his level of fluent and effortless reading might be considerably below this, perhaps closer to 6-7 GE. This level may explain why Brian found the reading in his college courses to be "too much." With regard to Brian's 4 GE spelling, computer spell checkers (which were not available when he first tried college in the mid-1970s) could be of great assistance to him. But the function of spell checkers is to flag spelling errors after they have been made. At adult GE levels 4 and below, spellers such as Brian report that their spelling problems

sometimes inhibit their expression; too often the content of what they write is influenced by what they can spell (Strucker, 1995).

In recent years colleges and community colleges have instituted programs in reading, writing, and study skills specifically designed to help adults (including former ABE students) make the transition to postsecondary education. (See Chapter Four for a full discussion of the issues involved in this transition.) These programs also try to help adults choose a field of study matched to their strengths. In this regard, the computer accounting training program was a good choice for Brian. Although it required some precise reading, the volume of that reading was relatively light. And in addition to accounting training, the program allowed Brian to acquire touch-typing and word processing skills, including use of the spell checker, that may help him to write more fluently.

SUGGESTIONS FOR IMPROVING ADULT LITERACY PRACTICE AND RESEARCH

The case studies reflect the wide variety of pathways that can lead to inadequate literacy levels in adulthood. Most of these adult poor readers suffered the risk factors identified in PRD as contributing to poor literacy outcomes, but their difficulties were also likely exacerbated by life circumstances not directly relevant to literacy (Rose, Terry, and Jissette) or by the cumulative effects of poor reading referred to as Matthew effects (Joseph and Richard). Now we turn to suggestions for improving adult literacy practice and research, based on the PRD findings.

Children's Reading Difficulties Illuminate Adult Literacy Learning

The case studies illustrate the fact that many of today's adult literacy students were yesterday's at-risk children. Moreover, for people like these adults, significant risk factors were present in the early stages of learning to read. Two recommendations for practitioners and researchers flow from this understanding:

- We should attempt to find out as much as possible about the childhood literacy experiences of adult literacy students, including parents' level of education, access to literacy activities, and history, if any, of reading problems.
- Because early reading difficulties can affect later reading ability (even for relatively successful readers at the pre-GED level), adult literacy practitioners need to be aware of the entire continuum of reading development, including the period of kindergarten to third grade covered in PRD. Practitioners need to be able to determine the effect a processing problem that originated in early reading may be having on the progress of an intermediate or GED-level adult reader. Components testing can help with this (Chall &

Curtis, 1990; Roswell & Chall, 1994; Strucker, 1997). We need more research on what instructional approaches might work for these intermediate adult readers. Is it necessary for such students to review and master all of basic phonics, or are there shortcuts that would get better results?

Even if the field of adult literacy were to adapt the PRD recommendations in early reading instruction to the needs of adult learners and address their processing difficulties, the field would still be faced with some of the Matthew effects of early reading difficulties in the ABE and ESOL population. Specifically, if early processing problems adversely affected the middle school stages of reading to learn when these adults were children (Chall, 1983; Stanovich, 1986), then they tend to have difficulties in three related areas:

- Vocabulary knowledge and vocabulary acquisition skills
- Different genres of decontextualized written language
- Background knowledge acquired from school subjects

Although the ESOL population generally does not include a high percentage of people with phonologically based processing problems, because many of them were not able to complete high school (or even middle school), they also have difficulties in the above three areas, compounded by having to take on these problems in English.

Few research and intervention studies have been done on the degree to which this gap in skills and knowledge from middle school or high school must be addressed to allow for self-sustaining reading development in adult life and to allow these adults to read to learn at the postsecondary level. Do we have to fill in all or most of the missing skills and knowledge, or, as Sticht (1975, 1987) argued, can we help adults build their reading outward from a narrower, perhaps job-related foundation of skills and knowledge? These questions are not only important to adult educators; they are also central for middle and high school educators who teach at-risk adolescents.

Reading disabilities of presumed neurological origin played a dominant role in the severe reading difficulties of Joseph and Richard and appear to have contributed to a lesser extent to the more moderate-to-mild reading difficulties of Rose, Terry, and Jissette. What does the presence of such reading difficulties imply for instructional methods for ABE students? This question was addressed in a comprehensive and thoughtful review by Fowler and Scarborough (1993), who concluded that whether an adult reader meets various K-12 legal definitions of reading disabilities or learning disabilities may be of more theoretical than practical

significance for instructional purposes. The authors reviewed the research on successful instructional approaches for children who were classified as reading disabled and children who are simply poor readers, and they also surveyed the more limited research on adult literacy students. The research on both children and adults indicated that poor readers who had been formally classified as reading disabled and poor readers who had not been so classified shared persistent difficulties with word recognition, fluency, and reading rate-so-called print skills.

Moreover, the authors reported that the approaches that were successful in remediating these word recognition difficulties among reading-disabled adults were also successful with other poor readers. Fowler and Scarborough also emphasized the need to assess the various components of reading so that adults with severe word recognition and fluency problems could be identified and receive instruction specifically designed to address those needs.¹³

Although we agree with Fowler and Scarborough's conclusions, we are concerned that some policymakers or practitioners who may not have read their report in its entirety may misinterpret the authors' observation that "it matters little [emphasis ours] whether a reading problem stemmed originally from a localized intrinsic limitation, from a general learning problem, or from inadequate educational opportunity" (1993, p. 77).

There are important instances in which we believe it matters more than "little." For example, in the case of adult beginning readers, it is true that the best-practice instructional methods may not differ; generally structured language approaches such as the Wilson Reading System and Orton-Gillingham are effective with students who are known to be reading disabled as well as with students for whom that determination has not been made. However, speaking practically, the pace of instruction and amount of repetition needed can vary quite a bit, depending on whether a student is severely phonologically disabled (like Joseph), somewhat less so (like Richard), or not phonologically disabled at all. If teachers are unaware of the issue of pace, they can give up too soon on an adult beginner who is making slow initial progress.¹⁴

With intermediate readers such as Rose or Terry, the issue of the pace of instruction is also important. Students at 6th GE who have word recognition difficulties may not progress as fast as those who do not have such difficulties. For example, such students may need more practice than others with polysyllabic words encountered in high school-level reading. The level at which they read fluently and effortlessly may be well below their tested level of silent reading comprehension. How are teachers to know this? As Fowler and Scarborough point out, ABE teachers need to understand the nature of reading disability, even though

a formal diagnosis may not be possible or necessary for most of their students, if they are to teach the right stuff in the right way. The place to start is with assessments that go beyond the traditional group-administered silent reading tests. Such tests do not indicate whether someone who scores above 6 GE may still require instruction to improve word recognition, fluency, and rate. ABE programs often assume that all students who enter scoring at 8 GE or above in silent reading are immediately ready to make rapid progress toward the GED in the traditional classes that address the five GED content areas. But for students who are reading disabled (such as those whose scores are depicted in Figure 2.1), the 8 GE score may represent peak functioning that may not improve until they are able to improve their reading accuracy and rate.

From the perspective of ABE students themselves, the question of whether they are reading disabled can be significant, quite apart from the issue of what instructional methods should be used with them. Adults older than age fifty may have grown up before K-12 systems formally diagnosed reading disabilities; unfortunately, in many cases they were assumed by the schools and their families to be mentally retarded, and they were treated as such. In addition, in some states learning-disabled adults are eligible for vocational rehabilitation services if their learning disabilities can be documented. Students in welfare-to-work programs who are learning disabled can petition for more time to complete their education and job training. Similarly, reading-disabled students taking the GED may be eligible for accommodations in the administration of the tests. If ABE teachers are trained to recognize such reading difficulties, they may be able to advise students on whether they should seek a formal evaluation.

We are not suggesting that a formal learning disabilities apparatus similar to the K-12 special education bureaucracy be imported into ABE and adult ESOL. For the reasons we have discussed having to do with the difficulty of-to use Fowler and Scarborough's term-"disentangling" reading disabilities from other factors, the legalistic criteria of K-12 learning disabilities would be impossible to implement. This in itself is an important difference between K-12 reading and adult literacy. Moreover, many thoughtful researchers and practitioners have come to question the usefulness of these criteria and the expense and time needed to employ them in K-12 education. (See Spear-Swerling & Sternberg, 1996, and Foorman, Francis, Shaywitz, Shaywitz, & Fletcher, 1997, for reviews of this issue.)

In ABE and ESOL teachers are free to be what Mel Levine calls "phenomenologists"; that is, they can observe and diagnose a difficulty without having to name it or label the person who has the difficulty.

They are then free to work with their student to address that difficulty using best instructional practice, without having to go through cumbersome and expensive classification procedures, some of which may be based on outdated understandings of brain functioning (Levine, 1994; Spear-Swerling & Sternberg, 1996).

We Need More Information About Middle School

PRD was limited to reviewing research about beginning readers and young children. There is a lot to learn about reading after grade 3, and it is possible that an entirely new set of reading challenges will emerge in the middle school years for some children who are helped to negotiate the difficulties of the early grades with better prevention and better instruction. Thus, it is clear that we need to continue to investigate the instructional strategies that work to promote comprehension, analysis, word learning, inference, and critical thinking for children in later elementary and secondary schools, and that such investigations will benefit adult literacy instruction.

Adult Literacy Populations Are Changing

One of the reasons we have attempted to articulate the relevance of Preventing Reading Difficulties in Young Children for Adult Learning and Literacy to adult literacy is because of the dramatic shifts we are now seeing in adult literacy learners. The increased proportion of ESOL learners was noted above, but it should be pointed out as well that a very large proportion of this ESOL group will probably be non-or semiliterate in their first language. With the shifts in policies concerning welfare and work requirements for women, even those with young children, it is almost inevitable that adult literacy programs will be serving an increased proportion of women seeking job-related literacy skills. Many of these women will have well-developed but rusty literacy skills, while others may have left school after having achieved only rudimentary control over English literacy.

More Attention to Reading in Professional Development

A major recommendation of PRD is that preservice teacher education include both more and more thoughtful attention to reading; it is argued that to teach reading effectively, a teacher would need to understand something about language acquisition, linguistics, rhetoric, bilingualism, and orthographic systems as well as pedagogical methods. It is further recommended that professional development in this area be delivered in such a way that this full variety of topics can be addressed, thereby giving the various adults (classroom teacher, reading specialist, tutor, ESOL teacher, and so forth) who deal with any child learner a coherent view of literacy development and of the child's needs. The call for elevated standards, strengthened professional development, and more coherent systems of instruction could also be extended to those working

with the adult learner. In fact, credentialing of adult literacy instructors is typically not required, nor are there widely recognized programs of professional preparation for adult literacy teachers. Some adult literacy practitioners are, of course, credentialed K-12 teachers, but they may still have had rather little direct instruction in how people learn to read and none in how to address the learning needs of adults.

Social as Well as Academic Factors Play a Role

One of the lessons of the case studies we have presented, and one understood as well by every adult literacy teacher, is the degree to which progress toward high-level literacy for adults is threatened by their life circumstances: the difficulties they have attending class regularly and finding time to study outside class and the worries induced by familial disruption, illness, unemployment, residential uncertainty, and other such factors. These inevitably interfere with an optimal focus on learning to read. We cannot expect to solve the problems of adult literacy achievement by focusing exclusively on better methods for teaching reading. Improving the quality of adult learners' lives more broadly is not only socially responsible but necessary.

WHAT NEXT?

We hope that this summary of a report focused on child literacy learners will be of interest to adult literacy practitioners because the descriptions of literacy development, risk factors, and opportunities to learn have direct relevance to their work. It would be very useful to have a second report, analogous to PRD, focusing on the questions of risk, development, and instruction for learners in the middle grades and beyond. Such a report would raise new issues related to the older learners' special needs for support of vocabulary development, comprehension strategies, and ways of using literacy in seeking and transmitting knowledge. Even if such a study is not completed, though, we believe that certain extrapolations can be made from the information already gathered and reviewed and that this information should form a central core of content in the professional development of adult literacy teachers.

Appendix: The Tests Used

The Rosner in the score profiles refers to the Test of Auditory Awareness Skills (Rosner, 1975), a brief assessment of phonological awareness that begins by asking the respondent to perform a series of increasingly difficult tasks. First, he or she is asked to delete one word from two-word compound words, then syllables, then initial consonant sounds, then final consonant sounds, and finally to delete a single sound from a consonant blend. The GE scores reported for this test are based on Rosner's

published norms for the various levels of task difficulty.

The cluster analysis of the 120 students for both the Rosner and various Diagnostic Assessments of Reading (DAR) components was based not on GE scores but on standardized scores. The DAR (Roswell & Chall, 1992) was developed for use with adults or children based on assessment practices used in the Harvard Reading Laboratory and the Harvard Adult Literacy Initiative.

The DAR Word Analysis Test assesses basic phonics up to about the third-grade level, using ninety-two items, including a respondent's ability to produce the consonant sounds and his or her skill at reading consonant blends, short vowels in isolation and in short words, the rule of silent e, and vowel digraphs. The GE scores were extrapolated from the similar Rowell-Chall Test of Word Analysis Skills, which gives estimates of the grades at which students normally acquire the various skills assessed on both tests.

DAR word recognition measures word reading on graded word lists, from the beginning of first grade (1ñ1) through 12 GE. The DAR spelling, oral reading (graded short passages), and silent reading comprehension (short graded passages followed by questions and an oral summary) measures are criterion-referenced assessments of increasing difficulty. DAR word meaning is an expressive vocabulary test (similar to the WAIS-R) in which the respondent is asked to define groups of increasingly more difficult words.

Notes

1. To master the alphabetic principle is to understand that letters and combinations of letters correspond in a systematic way to the words and syllables of spoken language.
2. We will use the term grade equivalent (GE) when discussing adults. However, to say that an adult "reads at 5 GE" does not necessarily imply that he "reads like an average fifth-grade child." In vocabulary, for example, the adult may know the meanings of more words in areas pertaining to adult work life and psychological development than a fifth grader would, but the adult may not have learned or may not remember the meanings of some words associated with fifth-grade social studies or science. In the area of reading rate, average fifth graders can read about 150 words per minute with comprehension (Harris & Sipay, 1990), but many adult readers at 5 GE read more slowly. See also Pratt and Brady (1988) on the differences between the reading of adult literacy students and of age-matched children.
3. The ARCS randomly sampled approximately six hundred students

enrolled in ABE classes and four hundred students enrolled in ESOL classes in twenty-seven learning centers in Texas, Tennessee, and six states in the Northeast. The students were tested with a battery of reading tests, and those who spoke Spanish also were tested in Spanish reading. For logistical reasons, no students from corrections were included, nor were students participating in programs taught by volunteers.

4. The NALS assessed prose, document, and quantitative literacy using simulated real-world tasks of increasing difficulty and complexity in a sample of approximately twenty-six thousand adults, ages sixteen to sixty-five. NALS levels progressed from the most basic, Level 1, through the most difficult, Level 5. By way of illustration, prose literacy tasks at Level 1 "require the reader to read relatively short text to locate a single piece of information." Level 2 prose literacy tasks require in part "low-level inferences" and the ability to "integrate two or more pieces of information" (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993).
5. Scholes (1991) also found that on this assessment, ESOL learners outperformed reading-disabled native speakers.
6. The Rosner is a test of phonological awareness including items that require phoneme deletion.
7. The method of teaching reading that Joseph described is one that Horace Mann railed against in the 1830s (Adams, 1994). It is particularly disastrous because it can lead children to think that there is a direct correspondence between the letter names in English and their sounds. To this day some adults from rural areas of the English-speaking Caribbean countries report having been taught with this method.
8. The highest extrapolated score possible for both phonemic awareness and word analysis is 3 GE.
9. Why this rule holds and under what circumstances and for which alphabetic languages would be important questions to explore through further research on adults.
10. Title 1, also called Chapter 1 at times, refers to special federal funding available to schools with a high proportion of children living in poverty.
11. Ten other adults in Strucker's 1995 study showed a similar pattern of very weak phonological awareness with very strong word recognition and oral reading fluency. Nine reported they had received early intervention in reading. This pattern is now being studied in larger samples of adult learners to estimate its prevalence and to learn what factors may contribute to it.
12. We describe his score as 12 GE or higher because the Diagnostic Assessments of Reading have a ceiling of 12 GE.
13. Strucker (1997) made a similar point.

14. Beginners who are not phonologically disabled are admittedly rare among learners who attended school in the United States. But ABE teachers occasionally meet students from some West African nations or parts of the English-speaking Caribbean who are not literate in any language but experience few difficulties learning to decode.

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[Chapter 3](#) ➔