

Chapter 1

The Dilemma

What Is a Learning Disability?

Thirty years of psychometric approaches have failed to provide satisfactory answers to the learning disabilities dilemma.

—CHRISTENSEN (1992)

Ten years later, little new research has been completed that diminishes the veracity of this conclusion.

—FRANCES ET AL. (2005)

What is a learning disability and how do you know if a child has it? This deceptively simple question has perplexed educators, researchers, clinicians, and parents for decades. Questions about the possibility of a learning disability can arise at any point in a child's school career when a parent or teacher senses that something is "not right" about a child's learning. For some children problems become apparent in preschool, for some in kindergarten or first grade, and for still others, perhaps not until middle or even high school. When parents request an evaluation, they typically seek answers to two basic questions: "Does my child have a learning disability?" and, if so, "What should be done about it?" On the face of it, the first of these questions should be the easier of the two. In fact, that is not necessarily the case. Although the term "learning disability" is widely used and accepted as a diagnosis by professionals and laypeople, its definition has been remarkably elusive. The label has actually become less, rather than more, meaningful over time.

Two decades ago I wrote that "although most practitioners feel fairly comfortable identifying a learning disabled child as such ... the diagnosis is remarkably resistant to definition" (Waber, 1989, p. 29).

Since then, after much intensive research and debate, the situation has only grown more confusing. Experts continue to struggle to reach consensus about a diagnosis that is thought to afflict upward of 5% of all U.S. schoolchildren and is by far the fastest growing disability category in the public education system. This is a troubling state of affairs for a field that has benefited from substantial resources as well as the attention of many thoughtful experts for so many years. The struggle over the definition, however, is only a symptom of the far more fundamental confusion about the phenomenon itself.

An evaluation may fail to identify special needs using one set of tests whereas a different result is obtained with a different set of tests or even the same tests in another pair of hands. Or the test scores may fail to document a problem, while the child continues to struggle and becomes increasingly discouraged. The confusion only intensifies when the question arises as to “what kind of learning disability” the child has. One evaluator may diagnose attention-deficit/hyperactivity disorder (ADHD), whereas another concludes that there is a problem with “processing.” Children may be labeled as visual or auditory learners, dysgraphic or dyslexic. Diagnoses such as “nonverbal learning disability” and more recently “executive function disorder” have arisen, as if to fill the endless need for more and more diagnostic labels because of the inadequacy of existing terminology to capture the diverse phenomenology of the children for whom these questions are raised.

The plight of children who come from economically disadvantaged communities and have learning problems is even more troubling. For them the diagnostic process can be far more difficult to navigate and the resources scarcer. A child who might be eligible for special education services in a suburban school system can languish in a depressed urban or rural community because of the overwhelming need, limited resources, or the absence of a savvy advocate. Such children are more likely to become discouraged and drop out of school, at great economic cost not only to themselves and their families but to the larger society, which is deprived of human potential. Other children with more complex cognitive, emotional, or behavioral problems may earn a learning disability designation because no other appropriate placement is available.

This confusion is also manifest in the periodically shifting diagnostic criteria. For many years, in most states, a child needed to exhibit a severe discrepancy between ability and achievement to qualify for special education services under the learning disability category, with specific criteria determined on a state-by-state basis because regulations were promulgated at the state level. Since the discrepancy criterion is now acknowledged to be flawed (Francis et al., 2005), the most

recent revision of the federal law states that it can no longer be used to deprive a child of needed services. It is no wonder that parents, teachers, and administrators become frustrated and bewildered as they strive to remain in compliance with the law and manage shrinking resources while meeting children's rights to a "free and appropriate public education."

Nonetheless, the need for some rational and effective strategy to deal with the many children, who, everyone agrees, have a "problem" is incontrovertible. If not addressed adequately, the impact of these problems can snowball, affecting multiple aspects of children's development in functionally significant ways. Repeated and unacknowledged experiences of failure and frustration can lead to disengagement from the academic process, with further psychosocial and adaptive fallout.

When a child appears to struggle, it is reasonable to consider the possibility of a learning disability, but the response to this consideration is by no means simple or straightforward. Often, the prevailing legal definitions and research-based criteria are difficult to reconcile with the more complex picture that parents and teachers observe on a daily basis. When the system works well, the problem is identified, the appropriate educational services are implemented, and the child makes academic progress. Sometimes, however, things do not go so well. Parents may struggle to understand whether their child does or does not fit the descriptions they read about or hear from experts, advocacy groups, or websites, and teachers may become frustrated when problems persist despite their attempts to apply what they believe to be good practices. For them, as well as parents, the process is often one of trial and error, as they try to figure out "what's going on" with the child and shift approaches to fit their various theories (e.g., lack of investment, ADHD, dyslexia). Children, meanwhile, can become discouraged as their self-efficacy is eroded, with significant consequences for their psychosocial adjustment. School systems may deny needed services because of resource limitations or philosophical differences, while parents may harbor unrealistic expectations of what a school can reasonably provide or accomplish, even with appropriate supports in place.

THE GAP BETWEEN POLICY AND PRACTICE

The all-too-frequent gap between the formal, legally defined systems and the actual experience of children, families, educators, and clinicians reflects the fact that policy has very different goals from clinical practice. The primary goal of policy is to differentiate children who do or do not qualify legally for an entitlement in order to triage finite resources;

the primary goal of clinical practice is to describe the individual child's developmental needs and determine how they can best be met.

In order to achieve the policy goal, the diagnostic process needs to consist of relatively simple and empirically specifiable and replicable standards that can be directly referenced to legal regulations. This goal is difficult to achieve if one retains a clinical focus on the complexities of an individual developing child. The job becomes easier, however, if the focus is restricted to specific academic skills that can be easily and reliably measured. Often, however, these discrete skills may constitute only one element of the clinical picture. Furthermore, because the law applies to children with "disabilities," physical and cognitive alike, the learning disability diagnosis, which is in reality dimensional, needs to be defined categorically, like the physical disabilities, a process that will inevitably be forced. The characterization of the learning disability diagnosis in the research and policy worlds is often at variance with actual situations encountered "on the ground." Users of the special education system, therefore, are often left feeling baffled, unsatisfied, frustrated, or angry, as they struggle to understand how a particular child does or does not "qualify."

Although the legal system is internally rational, it promotes an unfortunate conceptualization of the child as a product. This "industrial" model is valid in the policy arena as a practical means to allocate limited resources, but it can be less helpful to parents, teachers, and ultimately to the children whose development they seek to facilitate.

WIDE VARIATION AMONG CHILDREN WITH LEARNING PROBLEMS

To complicate matters, children who have trouble with specific academic skills, such as reading or mathematics, more often than not exhibit difficulties in other cognitive realms that can themselves affect school success, both academically and socially (Morris et al., 1998; Waber, Forbes, Wolff, & Weiler, 2004). Moreover, many children can master the fundamentals of reading and calculation and do not have a primary disorder of attention, yet they struggle in school. They may not qualify for official recognition, and their success can depend on the sensitivity and skills of a particular teacher, the advocacy and support of a parent, or private tutoring arrangements. Evidence-based approaches to skill development (i.e., those with efficacy demonstrated in controlled clinical trials) can provide a *necessary* instructional component for many children; often, however, they are not *sufficient* to meet their individual needs as they develop. There is growing recognition that some children are "repaired" by evidence-based interventions in the early years—learning to decode

words based on phonologically based interventions—only to have problems surface later on, in related or seemingly unrelated arenas. Some children may experience problems that become florid one year but are well managed the next, largely because of the classroom environment and the insight (or lack of insight) of a particular teacher. In short, there is enormous individual variation among children with learning problems—a fact that is not transparent from much of the research literature because it focuses so narrowly on specific skills.

Research in learning disabilities has been increasingly motivated by, and tied to, these policy considerations; the tail may be wagging the dog. As a result, the research has focused more and more narrowly on discrete skills—reading, writing, and calculation—and even on specific components of these skills. Fundamental to this perspective is the premise that the functional origin of the problem as well as the child's other characteristics and circumstances are irrelevant. The preferred strategy is to identify the skill deficit, focus on it, and then repair it as a project in cognitive engineering. The appeal of such an approach is its rationality and internal consistency; discrete skills can be reliably measured, with exquisite psychometric precision, for purposes of both identification and intervention. The ultimate goal of this research is to demonstrate empirically, using randomized trial methodology adopted from clinical medicine, that the outcomes, measured in terms of skill levels, are superior in the experimental arm of the study relative to the control arm, thus providing data to support “evidence-based” practice. This approach is eminently rational. If the child meets specified psychometrically defined criteria for a reading or math disability, he or she is given a diagnosis of specific learning disability, and the school then defines specific goals and provides services using good evidence-based practices accordingly, parallel to the physical disabilities.

In the real world, however, the observations that trigger a question of a learning disability are anything but straightforward:

- “My child has been receiving some reading help since first grade; his reading has improved a lot, but now homework is becoming a battle. *Does he have a learning disability?*”
- “The kindergarten teacher thought my child was not mature enough for first grade, so we held her back, but now that she's in first grade, she's still struggling to get her seatwork done. She prefers to socialize in class and she's starting to have stomachaches in the morning. *Does she have a learning disability?*”
- “My child typically starts off the year OK but then the grades start to fall off by Thanksgiving. Each year it seems to be getting worse. *Does he have a learning disability?*”

- “My child learned to read without too much trouble in first grade, but now in the fourth grade she’s having more trouble getting her work done, and she seems to have trouble keeping friends. *Does she have a learning disability?*”
- “A child in my class comes from a bilingual home, and her single mother, who speaks little English, works at night while the teenage sister takes care of her. She’s hardworking but just can’t seem to keep up. *Does she have a learning disability?*”
- “My child has always had to work hard, but his grades have been fine. Now he gets upset and at times belligerent when he has a writing assignment. *Is he just lazy or does he have a learning disability?*”
- “My child seems to know what she’s doing when we go over the work at home, but she does poorly on the tests when she is in school. *Does she have a learning disability?*”

Answering this apparently simple question is no easy feat. Of course, one can resort to a decision rule based on fundamental psychometric measurement criteria, but how well can such an approach actually mitigate these children’s problems?

As research and policy become ever more skill-focused, parents and teachers continue to grapple with developing human beings. They view the skill deficits as the cardinal symptom of the problem, yet they also recognize the complex and developmentally dynamic cognitive and social processes that more often than not accompany the specific skill problem. These processes can have a functional impact on academic and psychosocial well-being that is as great, or sometimes greater, than the skill deficit itself. Parents and teachers may restrict their focus to the skill problem, assuming that other potentially relevant aspects of the child’s functioning are ineligible for consideration. There is no simple and reliable empirical test to measure these other characteristics, nor is there a sanctioned label to apply. Often they try to understand the multiple and heterogeneous accompanying issues as a symptom of the child’s “dyslexia” or “ADHD” because they have no other accepted way to understand them.

THE LIMITATIONS OF PSYCHOEDUCATIONAL TESTS

Another problem is the psychoeducational tests themselves. Many of the widely used psychoeducational tests employ short discrete items rather than the lengthier and more complex material that is ecologically representative of curricular demands. Test construction is necessarily ori-

ented to psychometric criteria, which can be difficult to achieve in more complex and ecologically relevant materials. Many times, children do not qualify for special consideration because they have grade-level performance (as measured by psychoeducational tests), even though they are plainly in trouble on a day-to-day basis in their classrooms. Some of these children struggle and become discouraged, unless they happen to encounter a perceptive teacher who is willing to look beyond documented “normal” scores on psychoeducational testing.

One premise about which there is little disagreement, however, is that the phenomena associated with the learning disability construct, whatever they may be, are *neurodevelopmental in origin*. Curiously, the prevailing skill-based paradigms for understanding these problems are not actually developmental. Of course, researchers and educators attend carefully to the linear evolution of literacy and math skills across age and grade levels. Yet paying attention to age and linear progressions is not equivalent to paying attention to development. A developmental approach requires that the phenomena of interest—in this case, school problems—be seen within the broader theoretical context of developmental science, including developmental psychology and developmental cognitive neuroscience. This perspective, which has been largely missing from the discussion, can arguably point to a way out of the “learning disabilities dilemma.”

ABOUT THIS BOOK

This book outlines an *explicitly developmental strategy* for solving the learning disabilities dilemma. This approach by no means detracts from the merit of well-researched approaches to remediate particular skills. Rather, it argues that these approaches are necessary but not sufficient to solve the problem. It thus *complements* more skill-focused approaches by furnishing a principled framework for their application within the context of the developing child. For teachers, administrators, and even policymakers, it can provide a rationale for organizing and managing these difficult and complex questions. Most important, it shifts the focus of effort from the often contentious and capricious process of eligibility decisions about who does or does not have a “specific learning disability” to a project of informed and collaborative problem solving for children.

The balance of this chapter takes a closer look at problems with the way learning disabilities are currently understood and at attempts to solve those problems. Chapters 2 through 6 then present a developmental perspective on learning disabilities, starting with core principles

(Chapter 2) and key findings from developmental science (Chapter 3). Learning disabilities are developmental problems, and development is systemic in nature. As the research in Chapter 4 indicates, a lifespan perspective is fundamental when approaching a child with learning problems. There may be early predictors in infancy, and a developmental perspective is also essential to maximizing long-term outcomes when learning-disabled children grow up. In Chapters 5 and 6 I return to the issue of identification with insights from research conducted by myself and colleagues at Children's Hospital Boston as well as from contemporary cognitive neuroscience research. Part II of this book presents case studies that illustrate, in concrete terms, a strategy for putting the developmental framework described in Part I into practice.

"SPECIFIC LEARNING DISABILITY" AS A LEGAL CONSTRUCT

The term "learning disability" was first used in 1963 by the educator Samuel Kirk at a conference convened in Chicago by a group of parents whose children had what were referred to at that time as "perceptual handicaps" that impaired their school functioning. Too often, they believed, their children were misunderstood by schools, who dismissed them as cognitively deficient (Kirk, 1963; Shepherd, 2001).

Kirk used the term to refer to a group of children who harbored a neurologically based deficit in the acquisition of specific academic skills but whose mental development was not globally impaired. The term "learning disability" captured the spirit of their concerns. Specifically, these children were not globally low functioning; rather, they were individuals with normal intellectual capacity with a separable, but hidden, neurological *disability* that affected their learning, analogous to sensory or motor disabilities. This meeting led to the founding of the Association for Children with Learning Disabilities (ACLD), later to become the Learning Disabilities Association of America (LDA), a leading advocacy group.

Kirk's use of the word *disability* proved to be a brilliant stroke for advocacy, rapidly achieving translation into policy, in part because of a groundswell of support from advocates and in part because of the country's focus on civil rights in the 1960s. The term deftly captured the notion that the affected children were of normal intellect and attributed the school failure to a specific and circumscribed neurological defect or disability, comparable in status to other disability conditions. The first national legislation pertaining to learning-disabled children was passed 6 years later. The Children with Specific Learning Disabilities Act of

1969 was the first law passed by Congress to provide federal funding for education and research for the children to whom that label was applied (Shepherd, 2001). In that law, the term “specific learning disability” was first given official status, as follows:

The term “children with specific learning disabilities” means those children who have a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. Such [a] term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental disadvantage. (Public Law No. 91-230, 84 Stat., pp. 175, 177)

Learning disabilities would not be recognized legally as a disability category until 1975. However, the original 1969 definition has endured for decades, essentially unchanged even in the most recent reauthorization of the Individuals with Disabilities Education Act (IDEA), which, as we shall see, introduced radical changes in the identification process.

The law’s language requires that the phenomenology be defined as a *disability* in order to make the case for much needed attention and publicly financed resources. Since the science needed to be aligned with the advocacy, and hence the policy, the law’s language would set the course for the research and theory that was to follow. Moreover, the advocacy raised consciousness among parents and educators. As a result, the question of a learning disability was raised for more and more children with heterogeneous needs who were encountering legitimate school difficulties, many of whom did not fit the conceptualizations of the original advocates. Since the entitlements conferred by this legislation were associated with desirable resources, the identification process would become increasingly contentious as more and more parents became aware of their children’s potential rights and came forward to request, and sometimes demand, resources for their children.

INTERPRETING THE LAW IN THE SCHOOLS

The number of children identified as learning disabled has skyrocketed in a way that its early advocates never could have foreseen. The “specific learning disability” designation now accounts for over half the children served by special education services in the United States. Some critics have

argued that this high rate indicates that we are overidentifying children with learning disabilities (Kavale & Forness, 2003), providing services for children who are not *truly* learning disabled. Even these commentators, however, have no formula for deciding who truly has a learning disability, hoping that such diagnostic criteria will emerge from the neuroscientific arena. But as I elaborate in Chapters 5 and 6, the notion that some incontrovertible biological marker exists to be discovered may itself be fallacious. It is just as likely that the escalating identification rate is a legitimate symptom that schooling, as currently organized, is not appropriately equipped to effectively educate the broad range of children with diverse educational and social needs in accordance with the social demands of an increasingly information-based economy.

For many years the *specific learning disability* designation required that psychometric testing demonstrate a statistically significant *discrepancy* between ability and achievement, capturing in empirical terms the core concept. In many states the exact magnitude of the qualifying discrepancy was specified. This strategy was predicated on the basic concept that a learning disability involves unexpected school failure in the context of normal intelligence and adequate instruction. Inherent in this concept is the assumption that a “specific” learning disability involves a *modular*—that is, discrete and encapsulated—academic skill deficit in the context of otherwise normal functioning. This specific deficit, it follows, can be appropriately understood and therefore remediated without regard to the broader cognitive and social developmental context.

In reality, schools are frequently swayed when making placement decisions by considerations other than whether a child meets a strict legal or research-guided “definition.” What a child needs to succeed in a particular setting or what resources are actually available are often just as important. This substantial gap in real life between standard definitions for identification and actual school practices in eligibility determinations, long observed by practitioners, is well documented empirically (Bocian, Beebe, MacMillan, & Gresham, 1999; Gresham, MacMillan, & Bocian, 1998; Kavale & Reese, 1992; MacMillan, Gresham, & Bocian, 1998). MacMillan and colleagues (1998) reported that although only 30% of the children referred for evaluation in their study met psychometric criteria for a specific learning disability, 54% were actually identified as such by school assessment teams. These decisions were not capricious (Bocian et al., 1999). Teachers and schools appeared to factor actual classroom achievement and behavior into their decisions, in addition to formal test scores, and they considered other contextual factors such as the normative performance of children at the local level, program availability, and the relative skills of particular teachers.

In addition, practitioners have sometimes turned to Section 504 legislation to meet the legitimate needs of children whose psychometric testing does not result in a designation of a specific learning disability. This legislation guarantees civil rights to people with disabilities and is legally in the purview of general education, not special education. A “504 plan” is frequently invoked to provide accommodations when it is apparent that something more needs to be done, but the child did not qualify for special education. Simply calling attention to the child’s cognitive profile can sometimes have the salutary effect of relieving the child from an attribution of “moral turpitude” and stimulating teachers to entertain more positive and supportive attitudes. Thus, these categories and legal designations are far more fluid in practice than they appear on paper, as various players devise strategies to adjust the “fit” for children who are struggling academically while still meeting legal prescriptions.

In the end, educators are pragmatists; they navigate the existing institutional and legal structures to achieve goals that make sense, given the various constraints and resources available to them. Their behavior is an adaptive use of a system to meet genuine need in whatever way it can within the existing constraints. Bocian and colleagues (1999) commented that “teachers may be ‘imperfect tests’ but in terms of classroom relevance, their perceptions outrank student performance on isolated tasks in ideal, pristine conditions” (p. 12). A corollary to this observation is that research that is based on formally recognized identification criteria, whatever they may be, will have limited application to the challenges of the typical day-to-day life of schoolchildren, teachers, and administrators.

From a parent’s perspective, concerns often center not only on skill development, but also on risks for discouragement, frustration, and eroding self-esteem, regardless of whether test scores confirm the specific learning disability designation. Teachers are typically not privy to the extent of the psychological fallout when children struggle on a daily basis with frustration, confusion, and helplessness. Parents, on the other hand, may face “meltdowns” at home in a child who appears well adjusted and compliant all day in class. For parents who are attuned to their children’s moods and attitudes, this dynamic can cause considerable distress. The mounting concerns of parents, who understandably feel compelled to advocate for their child, can lead to pitched battles with school administrators, who are often responding to countervailing pressures to conserve limited economic resources and may ultimately be more focused on budgetary implications. School personnel look to test scores as a tool to provide a justifiable and fair basis for decisions. Everyone is caught in the turmoil, and no one is happy—especially the child who is the object of this attention. To help sort out the confusion,

it is useful to step back and look at how these problems in identification developed.

EVOLUTION OF THE LEARNING DISABILITIES CONCEPT

In their account of the history of learning disabilities in the United States, Hallahan and Mock (2003) identify five distinct periods. The first four are fairly straightforward. According to them, the *European foundation period* (1800–1920) begins with the 19th-century neurologists who established the principles of localization of function and ends with reports of congenitally based conditions that mimic adult brain damage, such as Pringle-Morgan's (1896) first report of "congenital word blindness" and later Hinshelwood's (1917) book on the same topic. The *U.S. foundation period* (1920–1960) begins with compulsory education, the introduction of remedial programs into the schools, and the emergence of experts, such as Samuel Orton, who hypothesized that reading and learning problems stem from mixed hemispheric dominance, and Marianne Frostig, who focused on movement and visual perception. The *emergent period* (1960–1975) captures the transition from learning disability as a psychological construct to its recognition, in a series of legislative actions, as a disability on par with sensory and motor disabilities. The *solidification period* (1975–1985) began the focus on empirically valid research. This was a relatively calm period, during which schools began to implement the laws, and controversy was relatively limited.

Most interesting from our perspective is the final period, which Hallahan and Mock (2003) call the *turbulent period*. Although the dates they assign range from 1985 to 2000, the turbulence surely continues into the present. The IQ–achievement discrepancy definition (i.e., a statistically valid and reliable discrepancy between IQ and reading or math skill) had, for many years, been accepted fairly uncritically, because it intuitively captured the intent of Kirk's (1962) terminology. The noted British psychiatric epidemiologist, Sir Michael Rutter, moreover, had provided substantial data contrasting "backward readers" with those with "specific reading impairment," the latter characterized by a discrepancy between cognitive ability and reading skill that was absent in the former (Rutter & Yule, 1975). As the number of students identified as learning disabled continued to escalate, however, schools became entangled in sometimes contentious struggles with families, and researchers began to question assumptions. Issues that had been viewed as settled became controversial, escalating in intensity.

By the 1990s, the discrepancy definition itself had begun to attract greater scrutiny. Researchers critiqued the original Rutter and Yule anal-

yses as methodologically flawed (Fletcher et al., 1994). Moreover, poor readers with and without a discrepancy were found to be indistinguishable in many ways, not only in terms of the reading itself but also in relation to associated language functions (Shaywitz, Fletcher, Holahan, & Shaywitz, 1992; Stanovich & Siegel, 1994). The epidemiological data indicated, however, that children who did meet criteria for a learning disability had higher IQs and, significant from a perspective of equity, better educated mothers (Shaywitz et al., 1992). Moreover, increasingly the discrepancy definition was invoked to exclude children rather than to include them and provide services.

As the discrepancy definition came under increasing attack, learning disability researchers redeployed their focus to specific academic skills, almost exclusively reading, and its cognitive underpinnings. Phonological processing, in particular, became the theoretical linchpin of much of the research in the 1990s, narrowing the focus from the child to the skill and then to a discrete cognitive component of the specific skill. As this highly modular approach gained currency, the concept of a developmental disorder receded. Although this strategy made the research task easier, the “learning disability” construct became increasingly muddled, and the theoretical basis from which to derive a consensual definition of learning disability was eroded. Equally significant, these children’s other cognitive and affective issues came to be treated as troublesome “noise,” rather than as functionally relevant, albeit heterogeneous, constituents of the child’s problems (Morris et al., 1998; Stanovich & Siegel, 1994). As time went on, it became clear that the phonological processing deficiency was only one part of the reading problem. Intervention trials aimed at remediating this core cognitive deficit succeeded in improving word decoding and recognition, but were less successful at improving fluency and, importantly, comprehension, the ultimate goal of text reading.

As the learning disability diagnosis gained greater acceptance and more and more children presented the question of learning disability, the problem of “legitimate” need became more, rather than less, troubling. Ironically, while educational research provides an ever-growing armamentarium of potentially effective tools for working with children who have learning problems (Swanson, Harris, & Graham, 2003), the battleground remains the gatekeeper function. Schools and government entities have regarded with alarm the ever-growing numbers of students referred. Identification and referral remain a constant source of friction between families and schools.

Another significant development was the arrival of education reform in the form of the No Child Left Behind Act of 2001 (NCLB). NCLB was a response to concerns about the continued failure of U.S.

schools to educate all of their students appropriately, especially those from historically disadvantaged minority groups. The major innovation of NCLB was the institution of standards-based testing at nearly every grade level. According to the model, testing would identify failing students and schools, and measures would be taken to remediate their skill deficits. Thus, the strategy is one of quality control, similar to strategies that monitor product quality in industry. *Accountability* was the watchword of the legislation; if children were failing, someone was to be held accountable. Teachers and school administrators could be held accountable for children's failure to make progress, and children were themselves to be held responsible for their own achievement, eventually being denied a high school diploma if they failed to meet quality control standards.

It is within this historical, political, and social environment that the IDEA was reauthorized in 2005. Because the discrepancy definition had fallen into disfavor, there was the will to implement new strategies to effectively manage the ever-growing number of children being identified as learning disabled. Although the definition of a "specific learning disability" remained essentially unchanged in the 2005 reauthorization, the act introduced radically different provisions. Schools could continue to use the discrepancy definition to *include* children, but they could no longer *exclude* children from services if the discrepancy criterion was not met.

The legislation signaled the impending demise of the psychometric approach to identification. David Francis and his colleagues, over the years, have provided the most extensive and comprehensive body of research on psychometrically based strategies for learning disability identification. In 2005 they summarized the status of the field (Francis et al., 2005), presenting multiple analyses, complete with detailed scatterplots of thousands of student scores, that illustrated potential problems with psychometric definitions based on a single assessment. In their epidemiological database, over 30% of children identified as learning disabled by standard psychometric criteria (either low achievement and/or discrepancy) in the third grade no longer met the same criterion in the fifth grade. Quoting Christensen (1992), who wrote that "thirty years of psychometric approaches have failed to provide satisfactory answers to the learning disabilities dilemma" (p. 276), they commented that "ten years later, little new research has been completed that diminishes the veracity of this conclusion" (p. 106). They concluded that test scores should be a part of the decision-making process, but that other behavioral considerations should be included as well. Measuring change over time, they argued, would be superior to the approach of capturing a single moment in time. How this strategy would be practically accomplished and what

it would add remains a major question, however, because it continues to limit its scope to psychometrically driven test scores.

A NEW STRATEGY FOR IDENTIFICATION: RESPONSIVENESS TO INTERVENTION

Given the failure of the psychometric approaches to identification, experts have advocated a response-to-intervention (RTI) model (Fletcher, Francis, Morris, & Lyon, 2005; Fuchs & Fuchs, 2006), which is nonetheless psychometrically driven. This RTI model would encompass both evidence-based instruction and frequent testing of core skills to ferret out those children whose learning issues appeared intractable. Such children would represent “true” learning disability. In the 2005 reauthorization of the IDEA, states were given the alternative option of an RTI approach to identification, which has the added advantage of compatibility with NCLB. RTI models integrate programs of increasingly intensive instruction into the general education curriculum, focusing more attention on the “prereferral” process as a strategy to limit the number of learning disability referrals to those with genuine need (i.e., those who fail to respond to evidence-based instruction). At each level, children are assessed to identify those students who are inadequately responsive and who therefore require intervention at the next, more intensive, level in the system (Fuchs & Fuchs, 2006).

RTI is commanding attention as the most promising solution to the long-standing dilemma of identification. Moreover, it has the added benefit of prevention, since the RTI model enhances the prereferral, general education component of the process. There are two broad versions of this system. The *standard protocol model* (SPM), consistent with the spirit of the NCLB, focuses almost entirely on “evidence-based” instruction and rigorous testing. According to the most prevalent version of this system, all children must be given the benefit of scientifically validated, evidence-based instruction in the general education setting (called *Tier I*). Achievement is measured regularly, and those who fall behind are provided with more intensive group-based tutoring (*Tier II*). Those who are successful in such tutoring programs then return to the general education classroom. Those who fail to meet the goal at Tier II then become eligible for special education intervention.

The alternative *problem-solving model* (PSM) is less explicitly defined; it provides a conceptual framework but leaves the details to those who apply it. It too calls for levels of intensity and prereferral assessment, but the approaches to intervention are focused on problem solving at the individual level rather than a standardized curricular pro-

tol. Curriculum-based measurement (CBM), targeted to curricular goals, can be used to identify children who are in academic trouble. Problem-solving teams act as consultants to the classroom teacher, and interventions address not just specific curricular approaches but the multiple issues that may be associated with the child's failure to make adequate progress.

The SPM, as it has been described and implemented in formal research, is distinctly modular in its provenance, whereas the PSM admits greater consideration of the whole child and more individualized strategies. Each predictably embodies strengths and weaknesses. The SPM is strong on reliability but lacks flexibility and provides no formal framework with which to consider the multiple developmental issues and contexts that impinge on individual children's school performance. The PSM approach, in contrast, is stronger on flexibility and the ability to accommodate these multiple considerations, but can be variable in its implementation and highly dependent on the skills and judgment of its practitioners. Evaluation of its effectiveness, moreover, can be a challenge, since the intervention can theoretically vary from child to child.

Most research-oriented proponents (Fuchs & Fuchs, 2006; VanDerHeyden, Witt, & Gilbertson, 2007) have clearly emphasized the SPM, in line with the overriding emphasis, among rigorous empirical researchers, on reliability and validity in assessment and on evidence-based clinical-trial approaches to intervention. Taken out of context, the SPM strategies make logical sense, much as NCLB has its own internal logic. It sets standards, identifies outliers—that is, those who fall outside the expected range—and then focuses on normalizing the performance of those outliers through clearly defined approaches with scientifically validated merit.

Yet, as with many apparently simple and straightforward ideas, the devil is in the details. For example, SPM is based on the predicate that children will be exposed to curricula that are proven scientifically to be effective, or evidence based. Although such curricula exist for early reading acquisition (and even then the proof of efficacy often does not extend to the more complex cognitive tasks of rate and comprehension), few programs are available for children who are no longer in that age group. Table 1.1 lists reading and math interventions reviewed on the website of the Institute of Educational Sciences “What Works Clearinghouse” (ies.ed.gov/ncee/wwc) as of September 2008. The limited availability of scientifically validated evidence-based programs is apparent. The vast majority of the programs reviewed pertain to beginning reading, and of these, only one (a program intended for first graders only) was

TABLE 1.1. Evidence-Based Efficacy Ratings of Elementary Reading and Mathematics Programs Based on Findings from the U.S. Department of Education Institute of Educational Sciences “What Works Clearinghouse”

	Total evaluable	Potentially				
		Positive <i>n</i> (%)	positive <i>n</i> (%)	Mixed <i>n</i> (%)	No effect <i>n</i> (%)	Negative <i>n</i> (%)
Alphabetic	18	6 (33)	11 (61)	0	1 (9)	0
Fluency	11	0	7 (64)	0	4 (36)	0
Comprehension	19	0	7 (37)	2 (11)	7 (37)	2 (11)
General reading	5	1 (20)	4 (80)	0	0	0
Mathematics	5	0	1 (20)	0	4 (80)	0

Note. A total of 193 reading programs were listed, of which 23 were evaluable, and 74 mathematics programs, of which 5 were evaluable.

clearly effective. Thus, the availability of a sufficient armamentarium of evidence-based programs at the present time is problematic.

Also, SPM assumes that the prevention measures will set children on the right course and that benefits will accrue throughout their school careers. But what happens after the early primary grades? What if the goal is not simply being able to read a list of words but to comprehend and use text in a meaningful way, or to organize ideas and write about them? What if, as so often happens, the child who receives remediation in the early grades once again encounters difficulties in higher grades, in the remediated domain or some other? Another problem is the sheer volume of testing that needs to be done to track students and the very limited nature, therefore, of the assessment that is possible. One comprehensive multiyear systemwide test of such a model, for example, was based on 2-minute tests of basic fluency in oral word reading and computation (VanDerHeyden et al., 2007). It is unclear how well this remarkably narrow evaluation translated to academic function, especially if measured in terms of the real goals of learning after the early primary years.

As Mastropieri and Scruggs (2005) enumerate, the problems to be solved if the SPM is to work are potentially endless. How are general education teachers to be trained in the appropriate scientifically based curricula? Who monitors the general education teachers for treatment fidelity? What curricula are available for the K–12 range for all content areas? How will RTI be implemented at the middle and high school levels? Who has the ultimate authority to move students up or down? How will parents be involved in the process and what are their rights under this system? What about the student who meets criterion at Tier

II, returns to the classroom, and then begins to struggle again? How does SPM RTI deal with the multifaceted nature of problems in children with learning disorders? Do we envision multiple evidence-based curricula and multiple tiers operating simultaneously? The possibilities go on and on.

Moreover, as Mellard, Deshler, and Barth (2004) found when they convened focus groups of “street-level workers” and consumers, the technology or tool used, be it an RTI model or a discrepancy model, is only one component of a broader context that will always be equally, if not more, important. The informants confirmed that learning disability determination is, in large part, a function of the setting within which it is implemented. In general, they believed that resource availability typically had a greater influence on student identification than the extent to which the child met formal criteria for a disability. Instructional staff reported that they could much more readily justify why a student needed specialized instruction than whether the student actually had a learning disability. Parents also were less concerned about disability determination than the quality of the services that were actually received.

Second, and surprisingly, a number of participants were skeptical about the value of the specific learning disability category altogether. Many learning disability teachers, in particular, questioned its value, given the controversy it generates and the needs of a larger number of students within most schools than can be realistically categorized as learning disabled. Many educators felt that resources designated for children with learning disability should be made available to schools for addressing the needs of a broader number of students. Those charged with the task of assessment were generally more confident about their findings relative to the curricula in their school than to broader generic criteria for learning disability designation based on nationally standardized testing.

Third, many learning disability teachers complained that they were called upon to pitch in for so many tasks that they were unclear as to whether the specialized services students with learning disability needed were truly available. General education teachers were concerned about how they could handle the increasing pressures to teach to the state-required standards for content at the same time as they were being called upon to do specialized skill instruction and progress monitoring, as an RTI model might require. In general, nevertheless, these stakeholders believed that the ideal strategy for handling learning disabilities would be an efficient process that was somehow validated and tied to research, while also sensitive to age and developmental considerations.

The less rigorous PSM seems to have proven easier, if by no means easy, to actually implement than the more prominently featured SPM. The city of Minneapolis, for example, instituted such a program about a decade ago and has been fairly successful in systemwide implementation (Marston, Muyskens, Lau, & Canter, 2003). After obtaining a waiver from the state, they abandoned the categorical designation of learning disability in favor of a problem-solving RTI approach. There were three basic steps to the process: (1) Describe the student's problem with specificity, (2) generate and implement strategies for instructional intervention, and (3) monitor student progress and evaluate the effectiveness of the intervention. The school system instituted intervention assistance teams made up of professionals from within the building, including other teachers, who collaborated to develop and test solutions. The more intensive special education evaluations and placements were invoked if the problem-solving approach was not successful. As with other RTI efforts, the number of formal special education assessments decreased. There was also increased collaboration across the general education–special education boundaries. Contrary to what some had predicted, abandoning the learning disability designation in favor of the more open PSM for students in need did not open the floodgates. The number of students identified basically equaled the number of students who had formerly been identified with a learning disability. Indeed, approximately 75% of the students who had been identified by the PSM met the standard criteria for learning disability or mild-to-moderate mental impairment. In terms of skill levels, the performance of students identified by the learning disability and PSM strategies was very comparable. Another positive outcome was that the overidentification of minority students for special education that had existed prior to the introduction of RTI was normalized. Minority students were now identified in proportion to their numbers in the school system.

Thus, although there is no evidence that outcomes were superior in terms of actual achievement or psychosocial adjustment (these outcomes were apparently not measured), the PSM did seem to relieve the system of unnecessary and burdensome bureaucracy and allowed it to redeploy resources in a more child-centered than regulation-centered manner. What is appealing, moreover, is that this more individualized approach does not assume that just because an intervention shows promise in a randomized trial, it will work equally well for all students. The system is sufficiently flexible (theoretically) to appreciate and accommodate the considerable individual differences in student needs. Furthermore, the system regards teaching staff not as vessels to be trained to deliver a specified intervention with fidelity, but as active problem solvers who

will engage on a collaborative basis to assess and address the problem of underperforming students. The PSM, however, requires extensive organizational management, staff education, and buy-in, since it is not just a technique but a change in school culture. Equally important, and relevant to the purpose of this book, it will require a theoretical approach that can provide an informed basis for understanding children and devising problem-solving strategies.

SPECIFIC LEARNING DISABILITY: R.I.P.?

Fifty years ago, the specific learning disability construct proved very successful as a basis for advocacy and a means to make real gains for children who struggled in school, but it is increasingly clear that the construct has mostly outlived its usefulness and is in decline in the United States. Practitioners increasingly behave *despite* the categorical diagnosis in order to provide children with what they need, rather than using the categorical diagnosis as a constructive means to advance the well-being of children. The emergence of new models with which experts are struggling, as evidenced by the 2005 IDEA, acknowledges this reality. Equally clear, the turmoil will continue for some time to come as new frameworks struggle into being within social contexts that will themselves inevitably continue to evolve.

As is further elaborated, however, since extant conceptual models of learning disabilities are essentially modular, they are likely inadequate to the task of understanding a *developmental* problem. Although these modular approaches certainly will continue to play an essential role, they will not, by themselves, rescue us from the definitional morass. Unfortunately, such approaches, if not complemented by a developmental perspective, will inevitably lead back to the same dilemmas that have plagued the field for so many years. *Parenthetically, although I will continue to use the term "learning disabilities" in this book, I do so for ease of understanding, with explicit recognition that part of the dilemma is inherent in the term itself and that it thus may be a placeholder for a new construct and terminology to be adopted in the future.*

The developmental paradigm elaborated in this book can provide the complementary theoretical perspective required to accommodate the real situations that children, parents, and teachers confront in their daily lives. Although it will surely bring its own set of dilemmas, it adds a dimension that has received little attention for too many years. It can more accurately model the actual phenomena, and it will profitably *complement* (not replace) existing modular strategies. It may be particularly

well suited, moreover, to problem-solving models for managing children with learning problems. The term “developmental,” however, sounds suspiciously vague. In order to be useful, it requires far more elaboration, especially as it relates to the learning disabilities dilemma.

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