

LEARNING DISABILITIES AS OPERATIONALLY DEFINED BY SCHOOLS

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The Individuals With Disabilities Education Act (IDEA; Public Law 105-17) stipulates regulations that guide the public schools in identifying students eligible for special education and related services. Moreover, it provides compliance reviews that ensure that the public schools in a given state act in accordance with the regulations. It is our position in this paper that the schools follow the letter of the law, albeit somewhat reluctantly at times, in establishing eligibility of children for special education by virtue of meeting criteria for learning disabilities (LDs). Furthermore, we contend that the public schools attempt to implement this process in compliance with IDEA stipulations and, in so doing, yield a population of LD students that

- Includes a substantial proportion who fail to meet criteria specified in the state education code and authoritative definitions (false positive LD cases).
- Fails to include a segment of students, of unknown magnitude, who do in fact meet criteria specified in the state education code and authoritative definitions (false negative LD cases).
- Varies considerably in the severity of the achievement deficits and other characteristics salient to the educational process from state to state, district to district, and school building to school building.
- Reflects the perceptions of school building personnel in terms of the students at that site most in need of, and likely to benefit from, the services available at that site.

The population of LD students has also changed over the years as our public schools have responded to societal and policy changes and the ways in which these have affected both general and special education.

Between 1976–77 and 1992–93, the number of children served as LD nationwide increased by 198% (U.S. Department of Education, 1995). Commenting on the magnitude of the increase in LD, MacMillan, Gresham, Siperstein, and Bocian (1996) wrote: “Were these epidemic-like figures interpreted by the Center for Disease Control one might reasonably expect to find a quarantine imposed on the public schools of America” (p. 169). There have been many debates over the reasons for this dramatic rise in the prevalence of LD. There are those who contend that LD has “matured” and detection methods improved, resulting in the identification of cases that would have been overlooked in the early years of the LD field (Hallahan, 1992). In addition, Hallahan noted increased threats to developing children (e.g., prenatal substance abuse, environmental toxins) that, when extreme, result in mental retardation, but when only moderate may be expressed as a more modest disability—LD. In contrast, there are those who believe that despite all of the debates over the true definition of LD, the disability category reflects the changing culture and process of our schools. In fact, as Reid Lyon was recently quoted in the *Los Angeles Times* (Colvin & Helfand, 2000), “Learning disabilities has become a sociological sponge to wipe up the spills of general education...It’s where children who weren’t taught well go in many respects” (p. 1). This operational definition hearkens back to the prophetic words of Evelyn Deno (1970) who noted that special education accepts regular education’s “fallout.” We believe that regardless of one’s perspective on this issue, it is time to ask whether LD, as originally conceived (e.g., Bateman, 1965), is no longer recognizable in our schools. This paper will explore what we believe are the reasons for the significant increase in the prevalence of LD and by so doing, cast doubt on the continued utility of the present approach to defining LD.

To begin, let us turn our attention to the definition guiding school identification and then the evidence bearing on the extent to which school-identified LD meets the definitional criteria.

AUTHORITATIVE DEFINITIONS OF LEARNING DISABILITIES

Before reviewing the stages in the identification process that emerge when the regulations in IDEA are implemented, let us turn our attention to the authoritative definition ostensibly guiding school identification of LD. Then we will examine the evidence bearing on the extent to which *subjectivity* in schools' decision-making process departs from the definition. The authoritative definition produced by the National Advisory Committee on Handicapped Children (1968) was adopted in the federal regulations authored by the U.S. Office of Education (1977) defining LD (Mercer, Jordan, Allsopp, & Mercer, 1996). The definition reads:

“Specific learning disability” means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage. (USOE, 1977, p. 65083)

Of importance to the present paper is what is included in the definition and what is excluded. For example, included in the definition are the following three elements: (a) the conditions of brain injury and minimal brain dysfunction, (b) evidence of in-child, presumably causal, neurological condition(s), and (c) exclusionary criteria specifying that these learning problems are not the result of mental retardation or of environmental, cultural, or economic disadvantage (Keogh, 1994). We point out the exclusionary criteria, particularly, for it is here that we will see the differences between research-identified (RI) and school-identified (SI) perspectives.

THE PROCESS PRESCRIBED IN IDEA GUIDING SCHOOL IDENTIFICATION

To best understand the actual prevalence of LD, we must first make salient the two different perspectives on “who is LD.” Specifically, we distinguish between SI and RI samples of students with LD (MacMillan, Gresham, & Bocian, 1998). The reason for this distinction is that the two approaches typically identify overlapping, but substantially different, groups of students. Stated differently, the compendium of research findings comparing the two approaches suggests that over half of the SI LD children fail to meet the criteria employed in RI LD sampling and specified in federal regulations or state education codes (MacMillan, Gresham, & Bocian, 1998; MacMillan & Speece, 1999; Shepard, 1983; Shepard, Smith, & Vojir, 1983). This is a paradoxical finding in light of the fact that the public schools are presumably required to establish a child as eligible for special education and related services by virtue of that child meeting the specified criteria for eligibility.

Since LD was recognized as an educational disability category, an ongoing discussion of the definition and the criteria adopted in implementing the definition has failed to result in consensus (see Doris, 1993; Kavale & Forness, 1985; Keogh, 1986), as also attested to in the other chapters in this volume. Maybe as a result of this failure to achieve consensus, the field has engaged in extensive and ongoing debate regarding the definition and criteria for establishing eligibility. However, that exchange has occurred almost exclusively in the context of RI cases of LD; that is, discussing “what ought to be” rather than “what is.” The urgency in public school settings to provide assistance and support to children encountering academic difficulties has necessitated labeling some children as LD despite the fact that the debate over definition and criteria continues. Let us be clear that we are not suggesting that the debate over definition and criteria be terminated.

Because academics author most of the papers addressing these issues, a clear preference for RI over SI emerges. Academics tend to interpret the failure of the SI population of LD to perfectly match the RI population as an error by the schools. Gerber (1999–2000) described this state of affairs as follows: “Demonstration that schools identify problem learners with markedly different characteristics than those

proposed by formal models...too often has led to premature conclusion that the models must be right and the schools wrong” (p. 40). Our message here is that we cannot, and should not, disregard the SI LD population, because it is that SI LD population over which public policy issues have been raised. It is the SI LD population, with all its imprecision, that is counted in the *Annual Reports to Congress*. It is the SI LD population that is examined in efforts by the Office of Civil Rights (OCR) to monitor the representation of the various racial/ethnic groups in the LD category in its surveys. It is the SI LD population that raises concerns over the dramatic increase in identification rates which is being described as an epidemic. Therefore, the only way to understand the SI LD population is to understand how public schools function and to acknowledge the various reasons schools have for identifying individuals with LD.

Of the five reasons that educators have for identifying LD listed by Keogh (1994) (eligibility, planning for services, assessing outcomes, research, and advocacy), “planning for services” drives schools’ diagnostic identification process, with only secondary concerns for “eligibility.” In contrast, “eligibility” and “research” drive researchers as they seek to protect against threats to the internal validity of their research. Furthermore, we suspect that the schools approach eligibility with a different set of concerns than those faced by researchers (Bocian, Beebe, MacMillan, & Gresham, 1999).

In the present paper we take an educational perspective in exploring who the schools serve as LD and attempt to describe the decision-making process that has resulted in the dramatic increases in LD students. The sorting of students ultimately resulting in some students being found eligible for special education services by virtue of qualifying as LD proceeds through several steps required under provisions of IDEA. The “protections” provided prohibit eligibility decisions being reached on the basis of single tests, particularly tests considered inappropriate for use with particular groups of children. In addition, parental consent is required prior to assessments, and parental roles in the process were strengthened under the reauthorization of IDEA. At the risk of oversimplifying the sorting process, let us suggest that several stages are apparent: referral by general education teacher, prereferral intervention efforts implemented in the general education setting, formal assessment of the student, and finally, eligibility and development of an individualized education plan (IEP) by a team.¹ As we describe these stages, the reader is asked to recognize a recurrent theme: at each stage, clinical judgment introduces a degree of subjectivity which affects the ultimate eligibility decision. Furthermore, the subjectivity present at each successive stage is additive.

STAGE 1: THE IMPORTANCE OF TEACHER REFERRAL

Ysseldyke and Algozzine (1983) noted years ago that the most important decision in the assignment of children to LD programs is the decision by the regular classroom teacher to refer. Zigmond (1993) echoed this sentiment when she wrote: “The referral is a signal that the teacher has reached the limits of his or her tolerance of individual differences, is no longer optimistic about his or her capacity to deal effectively with a particular student in the context of the larger group, and no longer perceives that the student is teachable by him- or herself” (pp. 262–263). Any understanding of the population of SI LD students begins with a consideration of those students that general education teachers consider “difficult to teach.” Given the process prescribed in IDEA, different perspectives are dominant at different stages of the referral-assessment-placement process that contribute to false positive and false negative identifications. Decisions to refer made by a general education teacher are influenced by factors beyond child characteristics. That is, two hypothetical children with identical reading deficits enrolled in different districts are not equally at risk for being referred by their classroom teacher. The extent to which respective teachers are optimistic about their ability to successfully teach the child (i.e., the teacher’s self-efficacy) enters into the decision. Zigmond (1993) reported on one of her projects that explored the extreme differences in rates of special education services. Fiscal and demographic variables failed to explain why some districts served large proportions of their students (11–15%) while others served small percentages (2–4%); neither did the availability or use of prereferral options at the school building level explain the disproportion. Teachers in schools serving small proportions of their students in special education did, however, express greater optimism about the likelihood of success of non-special-education strategies and interventions than did teachers in the schools serving high proportions of students in special education.

A teacher's decision to refer is also influenced by a comparison of a given child's academic performance to that of classmates or some absolute standard held by the teacher regarding "how well a second-grade student should be reading." The modal level of achievement in a given classroom is the baseline against which teachers judge the adequacy of specific children's performance. The two hypothetical students with the same level of reading performance are differentially at risk for referral if enrolled in two different classes where the modal level of achievement in one is 2 years below grade level and the other is 2 years above grade level. Presently, judgment by the general education classroom teacher that a child's performance is inadequate and unresponsive to materials and methods available in that teacher's classroom prompts referral, a necessary but insufficient step in becoming SI as LD. A parent less frequently initiates referral; however, even in such cases it is prompted by a perception that the child's progress in general education is inadequate and treatments provided are ineffective. These judgments are, by their very nature, subjective because they are made in the context of a specific teacher's classroom or a parent's experience with other children, neighborhood peers, and family relatives and friends.

General education teachers do not refer all students who have, if tested, a psychometric profile that meets state education code criteria. As noted above, referral is necessary for SI as LD. Cases meeting criteria that are not referred will not be available for sampling as SI LD, but would be included in a RI population of LD. However, the only way one could "catch" unreferred students meeting RI LD criteria would be by doing massive screenings of all schoolchildren with nationally standardized scales and then rigidly applying criteria. In subsequent discussion we will refer to this group of students (psychometrically eligible but not SI as LD) as "false negative" cases of LD. Students who are SI as LD but do not meet eligibility criteria will be referred to as "false positive" cases of LD.

The false negatives first emerge at the referral stage. If students are not referred, they will not be SI as LD. We can't begin to estimate the magnitude of this group, although we will subsequently describe situations in which students are referred by their teacher and found to be psychometrically eligible as LD, yet they elude being identified by the schools as LD.

The general education teacher serves as an "imperfect test" (Gerber & Semmel, 1984; Gresham, MacMillan, & Bocian, 1997), thereby determining which children get referred and which do not. The imperfections include the optimism discussed above, but could also result from other factors independent of the specific academic deficiencies noted as a concern. One line of research has examined whether general education teachers are racially and/or gender biased in their referrals, with somewhat mixed findings. Zucker and his colleagues (Prieto & Zucker, 1981; Zucker & Prieto, 1977; Zucker, Prieto, & Rutherford, 1979) used vignettes and manipulated the ethnicity and gender of the child when presenting the vignettes to teachers. Their findings suggested that teachers were more inclined to judge a child as appropriate for special education placement if he or she were described as Black or Hispanic; however, no effects for gender were found. Shinn, Tindal, and Spira (1987), however, found that both racial and gender biases were plausible for the referral behavior of elementary school students with severe reading deficits.

Two other investigations (Bahr, Fuchs, Stecker, & Fuchs, 1991; Tobias, Zibrin, & Menell, 1983) extended the design to consider the race of both the referring teacher and the child being considered for referral. In the Tobias et al. study, neither the race of the teacher nor that of the student exerted a significant effect on the referral recommendation. However, Bahr et al. found a significant effect for the race of the student (i.e., with Black students being judged as more appropriate for placement) but not for the effect of the race of the teacher or the interaction.

Similarly, MacMillan, Gresham, Lopez, and Bocian (1996) examined a sample, stratified on the basis of ethnic group, of primary-grade students who had actually been referred by their teachers for prereferral interventions. They concluded that these teachers defined "difficult to teach" (i.e., the reasons for their referral) in terms of absolute low achievement and problem behaviors, primarily externalizing behaviors. In essence, those students whose academic performance deviates significantly from that of classmates and those whose behavior is disruptive and threatening to the smooth running of the classroom are at heightened risk for referral. Several findings from that study bear directly on the issue of potential bias.

Comparisons on the basis of ethnic group (White, Black, Hispanic) and gender resulted in the following significant differences: (a) referred White students had significantly higher verbal IQ scores and reading achievement scores than did referred students from the other two ethnic groups, (b) referred Black students were more likely to have a higher incidence of behavior problems than were Hispanic students, and (c) gender differences were evident in the problem behaviors exhibited (males having more) but did not emerge on cognitive or achievement measures. Contrary to some of the previously summarized studies, these data suggest that teachers were more reluctant to refer Black students. That is, Black students who were referred exhibited achievement deficits more severe than those prompting the referral of White students and behavior problems more serious than those prompting referral of Hispanic students.

We call attention to the fact that when teachers make decisions about a child's academic progress, it is *teacher judgment* that is employed, using *local norms* as the child's performance is compared to that of classmates and grade peers (Bocian et al., 1999). When teachers refer a child they do not know if that child is LD or mildly mentally retarded (MMR). Instead, they know that the child's progress is unacceptable in comparison to local norms. We know of precious little evidence that addresses the magnitude of the population of children who would psychometrically qualify as LD but who are never referred by their general education teacher. These would be the "false negative" cases (if one assumes the RI LD are the "real LD"). Ironically, the limited evidence forthcoming from MacMillan, Gresham, and Bocian (1998) reveal that among *referred* students, the traditional LD student with above-average intelligence and discrepant achievement was among those *not placed in special education*.

Referral by general education teachers then initiates a process that can ultimately lead to a child being SI as LD. We have noted that the teacher employs local norms in deciding that a child's academic performance is deficient. The achievement of the child's classmates or the teacher's subjective standards for acceptable achievement provide the basis for comparison. While the evidence is somewhat conflicting, it would appear that teachers *might* employ slightly different standards when evaluating the achievement of children of different racial or ethnic groups. Moreover, the referral decision is grounded in the child's absolute level of achievement rather than comparing it to an expected level of achievement based on the individual child's aptitude or achievement in other subjects. As a result, subjectivity is introduced into the process in this initial stage that precludes any possibility of yielding the population of LD children defined in education codes and authoritative definitions. The false negative cases, where teachers fail to refer, are of unknown magnitude but will not be SI as LD. Already some students who meet RI LD criteria have been eliminated from possible identification. The cases moving to the next stage (assessment) also include students who do not meet criteria for LD, but whose exclusion will depend on being detected and eliminated from possible classification during one of the two following stages in the process. As we will see, however, subjectivity is present at these stages as well, making the ultimate decision contaminated by additive subjectivity.

STAGE 2: ASSESSMENT

For those students who are resistant to interventions provided in general education, something has to be done, be it retention in grade or consideration for special education services. In order to qualify for special education services, the child must qualify for one of the disability categories, determination of which requires psychological evaluation. MacMillan and Speece (1999) characterized this gate, the psychological assessment, as representing a cognitive paradigm intended to detect or document the existence of a within-child problem. In the case of LD, a common definitional criterion for eligibility is a severe discrepancy between aptitude and achievement; 98% of the states include a discrepancy of some magnitude in either the definition or criteria for LD (Mercer, Jordan, Allsopp, & Mercer, 1996). Bocian et al. (1999) expanded on this characterization of the assessment gate by suggesting that the psychometric data on aptitude and achievement permit determining whether the child's level of achievement is *acceptable*. If achievement is far below predicted levels (based on aptitude), then the placement team would probably conclude that it is unacceptable—the student should be doing much better. On the other hand, if the measures of intelligence and achievement are consistent (i.e., both very low), then one would reluctantly conclude that achievement is "acceptable" (if not desirable) and presumably consider "exclusionary" criteria that might prevent eligibility as LD.

In comparison to the referral stage, the assessment stage employs national norms. The use of “objective” evidence is a cornerstone of psychological assessment, and information from standardized tests is used—administration protocols scripted, the scoring carefully prescribed, and comparisons of a child’s performance made to norms established on nationally representative samples. While teacher judgment was employed in decisions concerning referral, the assessment stage is devoid of such factors.

When one considers the process prescribed under IDEA, these two “competing paradigms”—teacher referral employing local norms and the assessment employing national norms—the tension between “those whom teachers perceive as needing help” and “those whom psychometric profiles indicate are entitled to receive help”—result in overlapping populations. Were the psychometric template applied to all public school students, a segment of children who, for whatever reason, are not referred by their teachers (referred to previously as “false negatives”) would emerge. Moreover, of those referred by their teachers, some number are found ineligible when the psychometric template is applied. The psychometric data suggest that either the level of achievement is not sufficiently discrepant from aptitude to warrant eligibility as LD or the IQ score may be below the criterion for mental retardation. In other words, the assessment stage serves to screen the referrals made by the teacher and has historically been used to make a differential diagnosis, differentiating between cases of LD, mental retardation, emotional disturbance, and speech and language.

In previous writings (MacMillan, Gresham, Siperstein, & Bocian, 1996; MacMillan et al., 1997, 1998) we have described the difference between what is supposed to be and what really is in the use of assessment in qualifying children for special education services. The compendium of results from studies examining the degree of congruence between criteria specified in authoritative definitions or state education codes and the characteristics of students actually served under a given disability rubric is not very high. For example, when we examined the group of children that the public schools ultimately qualified as LD, less than half (29 of a total 61) evidenced the required discrepancy using the Wechsler Intelligence Scale for Children III (WISC-III) and Wide Range Achievement Test–Revised (WRAT-R) scores. MacMillan et al. (1998) wrote, “...public school practices for diagnosing children with LD bear little resemblance to what is prescribed in federal and state regulations...defining LD...”(p. 323). The models suggested in the federal and state regulations, particularly concerning criteria, are “measurement bound,” specifying cutoff scores, requisite discrepancies, and various other psychometric profiles on tests and rating scales that are to be applied “objectively” in establishing eligibility. Below we argue that despite the appearance of “objectivity” at the assessment stage, considerable subjectivity is introduced which serves to further distance SI cases of LD from RI cases of LD.

What do the public schools do? On the basis of our findings and rather extensive discussions with school personnel in several states, we conclude that the *concept* of LD used in the schools is not defined by psychometric profiles prescribed in legislation or employed by researchers. First, school personnel knowingly classify children with very low cognitive skills (mentally retarded?) as LD, despite exclusionary criteria and a lack of required discrepancies. Moreover, they express particular disrespect for tests of intelligence, which they perceive to be unfair and totally lacking in instructional validity. In addition, placement committee members and special education directors believe that the label “mentally retarded” is extremely pessimistic in its prognosis and are reluctant to use it. As one administrator put it, there is no upside to classifying a child as mentally retarded—the child is stigmatized, the parents resent the label, and we can develop an appropriate program for the child through the IEP process regardless of what we call the child.

These conclusions are consistent with those of Gottlieb, Alter, Gottlieb, and Wishner (1994) who also noted the fact that the discrepancy component is ignored by school professionals. They concluded that one reason is that urban practitioners knowingly ignore the absence of the required IQ-achievement discrepancy in “an effort to marshal scant resources for low-achieving students” (p. 459). The same sentiment is reflected in Shepard’s (1983) comments: “Specialists would be more willing to make tough decisions about whether a child was really LD if rejecting the label was not tantamount to denying help” (p. 8).

A second observation about the assessment process and how school personnel use the results is in order.

Placement committee members are painfully aware that certain assessments are mandated by state regulations. Moreover, school personnel dutifully, if unenthusiastically, comply with these regulations, although seeing them as “necessary evils” because that is the mandated process required *in order to get services to children*. As MacMillan, Gresham, Siperstein, & Bocian (1996) expressed it, school personnel are more concerned with “what to do” than with “what kind of kid this is.” In this same spirit, one also encounters “creative testing” employed in order to record a combination of numbers that justifies the classification as LD. For instance, if the aptitude estimate using the WISC-III is “too low,” then a nonverbal test of intelligence or an older version of the WISC (e.g., WISC-R) with outdated norms might be employed in order to secure a higher aptitude score and thereby the requisite discrepancy. Once convinced that this child needs and will benefit from services available in special education placement, school personnel seek ways to justify the action. School personnel repeatedly note the lack of instructional validity of intelligence tests for teachers’ instructional planning and object to the cost of performing these assessments merely for qualifying the eligibility of children. We reiterate a point made in the early portion of this chapter: The schools’ reason for classifying students LD is primarily for planning for services. In order to plan for services, the process prescribed under IDEA first requires that a child be qualified as eligible and in most states that requires the right combination of numbers (Mercer et al., 1996).

The subjectivity noted at the referral stage is exacerbated by additional subjectivity being introduced during the assessment stage. While objectivity is the hallmark of psychometric assessment, the selection of specific tests to be used (and the combination thereof) in order to justify the decision to serve this child results in most cases in false positive identifications. That is, a child who would not display the requisite discrepancy if one combination of tests is used is assessed with another combination of tests. Increasingly, the discrepancy between SI LD and RI LD is increased even further. As will be discussed in the next section, there is also the potential for increasing the number of false negatives, but it occurs in the deliberations of the committee assigned responsibility for placement. That committee may attend to the perceived need of a child and choose to disregard an IQ-achievement discrepancy when the absolute level of achievement is considerably higher for a nondiscrepant profile with very low reading achievement, for example. Let us now turn our attention to the third stage in the referral-assessment-placement process: the committee decision making that serves as the final arbitrator in the SI process prescribed in IDEA.

STAGE 3: PLACEMENT COMMITTEE DELIBERATIONS

The recommendation of the placement committee (we use this term here recognizing that various other terms are used to describe it) ultimately determines if a given child will be classified as LD after considering *all of the evidence brought to its attention*. IDEA specifically prescribes that a multidisciplinary team decision must be made, and specifies the role of the parent in this decision. These specifications make it clear that the psychometric profile alone cannot be used to determine eligibility—to do so would be out of compliance. This interdisciplinary team is responsible for determining eligibility and, when appropriate, crafting the IEP and determining least restrictive environment (LRE) for a given case. Like the teacher at the referral stage, the team is permitted to exercise professional judgement, but it is “collective judgement” rather than individual judgment, as was the case at the referral stage.

Bocian et al. (1999) reasoned that the team decision regarding eligibility and “placement” is guided by the concept of *profitability*, which reflects the collective judgment on whether *the specific special education services provided by the special education staff at that school site* will or will not be beneficial to the child. At this stage, the information and perceptions that prompted the general education teacher to refer the child, the results of the formal psychological assessment comparing that child to norms based on national samples, and sociocultural and contextual factors that inform the decision are all considered by the placement team. The team must weigh evidence coming from the competing paradigms described above (e.g., local vs. national norms). Bocian et al. noted that a number of contextual factors are considered prior to making its decision:

Ideally, this team decision will weigh evidence provided by the general education teacher, the school psychologist, the parents, and all members regarding the perceived efficacy of the services

that accompany alternative decisions. In addition, very practical considerations enter into the decision: openings in a special day class, caseload of resource teachers, second language issues, and the stridency of the parents when they oppose a course of action. (p. 3)

It was also noted that the relative forcefulness and competence of participants in specific team meetings play a role in the course of action ultimately taken. For example, a forceful general education teacher pressing for placement and a school psychologist with borderline discrepancy evidence may arrive at a different decision than a team with an ambivalent teacher and an articulate and forceful school psychologist.

When one examines the decisions made by a multidisciplinary team in light of the evidence available from the teacher's perspective and the school psychologist's perspective, the process prescribed by IDEA apparently does yield rational decisions. Bocian et al. (1999) examined the team recommendations to certify students as LD. In certain cases the teacher rated the child as having very severe achievement deficits, while in other cases the teacher ratings indicated only modest deficits—these cases reflected “local norms” as we've used the term. National norms were reflected in these cases by the presence or absence of the required IQ-achievement discrepancy. When there was congruence between these conflicting paradigms (i.e., either [a] the teacher rated the achievement deficit as very severe and the discrepancy was present, *or* [b] the teacher rated the achievement deficit as only modest and the discrepancy was not present), the decisions reached were consistent: 78% of [a] were classified as LD; 100% of the cases in situation [b] were not classified as LD. However, when the teacher rating of the severity of the achievement deficit and the presence or absence of a discrepancy were misaligned (i.e., achievement rated relatively high-discrepancy *or* achievement rated low-nondiscrepant), the rate at which the LD label was appended was much lower—45% and 39%, respectively.

Payette and Clarizio (1994) also examined team decisions on LD eligibility and found that three fourths of the children classified as LD did meet the severe discrepancy. In this investigation, the authors went on to examine factors related to “two kinds of misclassification observed: ineligibility with a severe discrepancy, and eligibility without a severe discrepancy” (p. 43). We have referred to these two situations elsewhere in the paper as “false negatives” and “false positives.” In false negative cases, which constituted 16.57% of the referred sample, these investigators found that this group had significantly higher IQ scores than did students with a severe discrepancy found eligible by the placement team. In addition, they were significantly more likely to be White and older and have higher achievement scores. In the false positive cases, which constituted 9.59% of the sample, when compared to those found not eligible, findings indicated that they had lower Full-Scale IQ (FSIQ), were more likely to be girls, and were significantly lower in achievement. It is worth noting that the rate of false positive cases reported by Payette and Clarizio is considerably smaller than noted earlier for other investigations. However, the mean FSIQ for their ineligible cases was 102.30 and for the eligible children it was 95.03. In MacMillan, Gresham, Lopez, & Bocian (1996) study on students referred to prereferral intervention, the mean Verbal IQ scores were as follows: 87.42 (White), 79.93 (Black), and 78.17 (Hispanic). Such variability in characteristics across school districts attests to the “relativity” of LD and, in the MacMillan et al. study, the difficulty in demonstrating a discrepancy is evident.

DEVELOPMENTS FURTHER EXPANDING THE CONCEPT OF LD IN THE PUBLIC SCHOOLS

In this paper we have described the process followed by school personnel primarily to explain that there is subjectivity at each of the three stages considered and that this subjectivity is additive. We believe this subjectivity explains, in part, the lack of congruence between those whom the schools identify as LD and the criteria specified in education codes and authoritative definitions. Since LD emerged as a formally recognized disability category, there have been changes in the definition of mental retardation which, in turn, affected the definition of LD and extended boundaries of SI LD (MacMillan, 1993). Increasingly schools have opted to ignore the “exclusionary criteria” (mental retardation and cultural impoverishment) in order to serve students in need. This has been particularly true since changes in the definition of mental retardation have put more and more children into a gray area: those who do not meet the criteria either for

mental retardation or for LD. Moreover, provisions of P.L. 94-142 diminished the importance of differential diagnosis and, in fact, provided the schools with the means to minimize the extent to which they used the diagnosis of mental retardation. Both the eligibility decision-making process employed by the public schools and the characteristics of children served as LD were altered markedly by these developments despite little or no change in authoritative definitions of LD or criteria specified in state education codes.

DELETION OF “BORDERLINE MENTAL RETARDATION”

When Kirk introduced the term “LD” in 1963 he referred to a segment of students who encountered academic difficulties but were not eligible for special education services under already existing categories (e.g., mental retardation, emotional disturbance). In other words, mental retardation and emotional disturbance had “territorial rights” to groups of children already defined. The LD category was crafted to make eligible those children who were not heretofore eligible. In recognition of the preexisting categories, certain “exclusionary” criteria were employed, acknowledging, in certain instances, that children with already recognized disabilities were not subsumed under the umbrella of this new category. “Children assigned to this new category were defined primarily by what they were not: They were not learning, and they did not have visual, hearing, or motor disabilities, mental retardation, emotional disturbance, or environmental, cultural, or economic disadvantage that restricted their learning” (Raymond, 2000, p. 97). In the reauthorization of IDEA in 1997, the notion of exclusionary criteria is further expanded to include children who have not had the opportunity to learn—they are not to be identified as having a learning disability under these more recent guidelines (Council for Exceptional Children, 1998).

Consider the changes in the definition of mental retardation, specified as one reason for precluding eligibility as LD, and the impact it had on criteria for identifying students as eligible as LD. When LD came into existence, the authoritative definition of mental retardation was the 1961 American Association on Mental Deficiency (AAMD) (Heber, 1961) definition. Mental retardation constituted the largest disability in special education at that time. It continued to be the category with the largest enrollments when President Ford signed P.L. 94-142 into law in 1975. The Heber definition specified an upper IQ boundary of -1 SD (roughly IQ 85) and represented the most liberal or inclusive definition of mental retardation ever seen (Clausen, 1967). In 1973, AAMD (Grossman, 1973) reversed the trend toward inclusiveness, and shifted the upper IQ boundary to -2 SDs (or IQ 70). If eligibility as LD required excluding students who qualified as mentally retarded, then the segment of children with IQ scores between 70 and 85 (roughly 13% of the general population) was suddenly disenfranchised. The definition of LD and the criteria for establishing eligibility were intimately linked to the definition of mental retardation, and “changes in the LD definition” in fact occurred when mental retardation was redefined in 1973; suddenly 13 percent of the general population was cured of mental retardation. Were any of these children, described by Forness as being in a demilitarized zone, now eligible as LD? Academics might debate whether this disenfranchised group should be eligible for services as LD if they exhibit the requisite discrepancy (standard score or regressed?), but the public schools could not await resolution of that debate. State education codes revised criteria for mental retardation to be consistent with the Grossman (1973) definition and, in effect, directed school districts to cease identifying children in the IQ range of 70–85 as mentally retarded. However, school districts had to do something about a segment of children exhibiting severe and chronic low achievement accompanied by low cognitive skills. As we will describe below, it appears that the schools chose to serve them in substantial numbers in special education and did so by expanding the LD category.

HOW THIS EXPANDED THE LD CATEGORY

Faced with the practical problem of low cognitive students with chronic and persistent academic problems and the increased exclusiveness of the mental retardation criteria, schools had to decide a course of action. It is our position that the decision the schools reached was to expand the boundaries of LD to include these low cognitive children and serve them where they appeared. Doing so dramatically increased the heterogeneity of the SI LD population and widened the discrepancy between definitions of LD and characteristics of children served in public schools as LD. The essence of the reason for widening the gap

was captured by Gerber (1999–2000) in the following passage: “In 1973 we stopped teachers from nominating students with IQs between 75 and 85, simply removed the categorical label that once defined these students, simply defined educable mental or familial retardation out of existence. Did these students or their difficulties in learning go away?” (p. 38). No, they did not. In fact, they continued to present a significant challenge to teachers in whose classes they were enrolled. In turn, these teachers continued to refer them. Confronted with this situation many public schools chose to continue to serve them, but did so as LD.

It is important to note that evidence on the prevalence of former “borderline” and mild cases of mental retardation clearly shows that the condition is intimately related to poverty (see Richardson, 1981). An extensive research base documented that cases of “borderline” or MMR were a phenomenon arising from factors linked to poverty (Haskins, 1986). A series of investigations was undertaken to explore the extent to which the adverse effects of sociolinguistic/economic disadvantage could be reversed with early intervention programs targeting areas in which disadvantage was believed to affect academic performance (e.g., Garber, 1988; Ramey & Finkelstein, 1981). While the LD field has since its inception attributed the learning difficulties to intrinsic factors, the presence of many children of poverty with low cognitive skills in school populations of LD students certainly challenges the attributions dominant in the “LD literature” and requires a reconsideration of these assumptions at least as they pertain to SI LD.

The ignoring of exclusionary criteria is not restricted to MMR. Reluctance to classify children as emotionally disturbed (ED) is also evident, and is illustrated by a study conducted by Duncan, Forness, and Hartsough (1995). They examined 85 cases of students served as severely emotionally disturbed (SED) in two counties of California. At the time these students were *initially* certified as eligible for special education, 53% were identified as LD, 31% as SED, 11% as speech and language impaired, and 5% in other categories. The authors reported the age of the child when a problem was first noticed, the age at which the first intervention was initiated, the age at which the first special-education IEP was developed, and the age at which the first SED placement was made. SED placement was found to occur some 4 to 6 years after the problem was first noticed. The following passage illustrates the point made herein that LD is being used as a nonspecific diagnosis:

His problem first came to the attention of someone outside the family when he was about 5 years old. Formal intervention for these problems was initiated when he was about 6, and his first special education placement occurred when he was about 8....There was a likelihood that his initial special education diagnosis was in the learning disability category, but he was ultimately found to be eligible as SED. (p. 17)

Either the schools are reluctant to use the ED designation or the schools are using LD as an initial nonspecific category, appending an acceptable label because it is less stigmatizing and pessimistic in its prognosis, to be used until the treatments provided are deemed ineffective and inappropriate. Nevertheless, the presence of children classified as LD whose achievement deficiencies are primarily due to low cognitive functioning or behavioral excesses that impair learning serves only to contaminate the LD category.

VARIATIONS IN LD CHARACTERISTICS ACROSS SITES

As we have alluded to, it is our contention that the dramatic increase in the number of children identified as LD is in large part due to the fact that public schools violate the most fundamental exclusionary criteria for LD by enrolling children as LD who in fact qualify as mentally retarded or even ED. In addition, the schools’ categorical approach to establishing eligibility tends to obscure cases of comorbidity (the presence of characteristics defining two or more disability categories simultaneously). That is, a child is to be placed in one, and only one, disability category when found eligible for special education. For schools, LD has become the “disability of choice” because it is less stigmatizing, more acceptable to parents, and more optimistic in the prognosis it conveys. The result is that classification of children as LD does not constitute a diagnosis; rather, it has become a catchall designation for eligibility and planning for services.

MacMillan et al. (1998) provide an example of the generalized use of LD as a catchall designation for eligibility for services when they described their referred sample of children who were ultimately classified as LD by the public schools. Their research was conducted in California, which reported that 5.93% of its students were classified as LD. These investigators had classified all referred children using research criteria as being mentally retarded, learning disabled, having attention deficit–hyperactivity disorder (ADHD), emotionally/behaviorally disordered (EBD), or ineligible for special education by virtue of not qualifying on research criteria for any of the four categories. Of the first cohort of 150 referred children, 61 were ultimately classified as LD by the schools. When the research categories into which these students were placed were examined using research criteria, the heterogeneity of these 61 cases was apparent. Table 1 shows the 61 cases cast by either the single category suggested by applying research criteria or the comorbid cases (e.g., child met criteria for LD and EBD; or mentally retarded [MR] and EBD). Approximately a third of the cases did meet the LD criteria only; however, almost the same percentage ($n = 18$) did not qualify as LD but did qualify as mentally retarded (either solely or comorbidly with ADHD, EBD, or ADHD EBD MR), in which case they achieved a FSIQ on the ~WISC-III of 75 or less. Ten cases were classified as LD by the schools but failed to meet research criteria for any of the four possible designations.

Table 1. School-identified students as LD and classifications based on research diagnostic criteria.

The evidence clearly documents that the public schools similarly disregarded the “exclusionary criteria” specified in the authoritative definitions of LD. By focusing on absolute low achievement and forgoing the requisite discrepancy, schools knowingly include children with subaverage general intellectual functioning in eligibility classifications of students with LD. In other words, with regard to absolute low achievement being the basis for LD placement, actual school practices mirror the concern with low achievement definitions of learning disabilities articulated by Fletcher et al. (1998) who wrote:

This approach treats IQ as a measure of cognitive capacity that functions much like a threshold ability, using IQ to determine whether the child has sufficient cognitive ability to be successful at a complex cognitive skill such as reading. In essence, it integrates the classification of mental retardation and learning disabilities into a unified system, whereby deficiencies in complex skills below an IQ of 80 are ascribed to the child’s cognitive capacity, but deficiencies in children with IQs of 80 or higher are ascribed to failures in the specific component skills, behaviors, experiences, and attitudes that determine successful performance of that skill. The validity of this distinction has not been established and the cut point of 80 is completely arbitrary. (p. 199)

Gottlieb et al. (1994) reported on data collected over a 10-year span in a large urban school district, and their findings bear directly on our concerns that the exclusionary criteria are patently ignored in current placement situations. The current LD population in many settings includes substantial numbers of children who fit the criteria for mental retardation more closely than those for LD; furthermore, the failure to rule out sociocultural disadvantage as a contributor/cause of the learning difficulties is evident. These authors noted that in the 1960s and 1970s the IQ band for placement in educable mentally retarded (EMR) programs was between 55 and 85, varying somewhat by year and the most current definition. Gottlieb et al. found that the mean IQ for children classified as mentally retarded in their districts was 54 in urban districts and 55 in suburban districts—highly similar, to say the least. In marked contrast, they found the mean IQ for children classified as LD in urban districts to be one and one-half standard deviations lower than was found with their suburban LD students. They wrote: “In our 1992 research, for example, the mean for the urban learning disability sample ($N = 175$) was 81.4 ($SD = 13.9$) and the mean for the suburban sample ($N = 55$) was 102.8 ($SD = 13.4$)” (p. 455). In another sample of 320 children classified as LD collected in 1984, they found 41% achieving IQ scores between 70 and 85 with an additional 7.5% with IQ scores of below 70. In yet another more recent survey of 175 students classified LD, approximately one quarter had IQ scores of 90 or above, while 16.6% had IQ scores of less than 70. The findings of Gottlieb et al. regarding substantial proportions of the SI LD cases being low cognitive students are consistent with our own findings (MacMillan, Gresham, Siperstein, & Bocian, 1996); however, they also reported data illustrating the failure to rule out poverty and disadvantage.

THE NEED TO ACKNOWLEDGE URBAN SPECIAL EDUCATION

Earlier we discussed the difference between RI and SI; however, it is equally important to acknowledge that among SI LD students there is a dramatic difference between urban and suburban LD students. Data reported above by Gottlieb et al. attests to this situation simply on the basis of mean IQ of LD students in urban and suburban districts.

Cultural, environmental, and economic factors, rather than serving as a cause for rejecting the diagnosis of LD, often weigh heavily in the school's decision to classify a child as LD. Nowhere is this more evident than in studies that contrast the decision-making process in urban and suburban school districts. Differences in populations classified as LD are obviously a function of the social class of the families served in a school. Stated differently, the meaning of LD is quite different in a poor urban school district than it is in an affluent suburban school district. The large urban district in which Gottlieb et al. (1994) collected their 1992 data ($N = 139,780$; 165 urban public schools) enrolled a majority of poor children. More than 80% of the children in that district live in poverty. These authors demonstrated that for the general education population of that urban district, a "poverty index" (based on average class size, percentage of Hispanic enrollment; percentage of teachers with fewer than 5 years of teaching experience, number of children qualifying for free meals or other forms of welfare, and the extent of overcrowding) accounted for 65% of the variance in schoolwide reading scores. On average, only 34% of the children in the general education population read at or above grade level. When they looked at the LD students specifically, they found that 90% were on some form of public assistance and 95% were members of a minority group (note: 93% of the entire school population was minority). They also characterized these LD students as "an immigrant population" with 19% being foreign born and 44% coming from homes where English was not the primary language spoken by parents. What then is LD in a large urban district? Gottlieb et al. described the operational definition of LD as "[l]ow-achieving, low-ability children who do not exhibit aggressive or bizarre behavior and whom teachers cannot accommodate in their general education classrooms" (pp. 458–459).

CHANGES IN THE IMPORTANCE OF DIFFERENTIAL DIAGNOSIS

In the 1960s and early 1970s, the assessment/classification process was a "high stakes enterprise" in the sense that the disability classification made in the case of a given child had profound consequences for that child's educational experience (MacMillan, Gresham, Bocian, & Siperstein, 1997). The classification decision whether a child was EMR or LD carried with it consequences in terms of the administrative arrangement into which a child would be served and the curriculum/services that would be provided. Figure 1 schematically represents the shift in consequences for differential diagnosis discussed in the following paragraphs. Recall that the earlier time frame in this schematic predates passage of P.L. 94-142 (Education for All Handicapped Children Act of 1975) and the requirements for a free appropriate public education (FAPE), LRE, and IEPs.

If a diagnosis of EMR was made, the question of "where," or the administrative arrangement in which the child would receive services, was essentially automatic. Robinson and Robinson (1965) described educational services for EMR students in that era, explaining that "The consensus of special educators today definitely favors special class placement for the mildly retarded" (p. 466). So, a specific placement (self-contained special class) was linked to the diagnosis of EMR. Moreover, an alternative curriculum—that is, a functional curriculum—that differed markedly from the general education curriculum was taught to EMR students. It is important to note that special education for virtually all disabilities *except mental retardation* consisted of modification in how a child was taught. In the case of mental retardation, however, special education consisted of modifications in both how and what the child was taught. The curriculum for EMR students typically emphasized the promotion of prevocational skills in the elementary grades along with social and interpersonal skills and functional academics. In the secondary programs vocational training received considerable attention.

Diagnosis of LD, on the other hand, resulted most commonly in service delivery in resource settings, and

yet *what* was taught was the standard general education curriculum. Special education for LD consisted of assistance provided by a resource teacher in order to enable the LD child to succeed in the general education curriculum. Unlike what the EMR student at that time was taught, there was seldom any consideration of an alternative curriculum for LD students.

School personnel responsible for diagnosis in the 1960s and 1970s did agonize over what “type” of child they were considering. The diagnostic decision they would make had profound consequences for the child under consideration. One diagnosis conveyed the belief that the general curriculum was appropriate (i.e., LD), and the other diagnosis (EMR) reflected the belief that an alternative curriculum was needed. To convey the significance of that decision, one of the major and most telling criticisms of the “EMR program” was that the decision was irreversible—once the child was put into the alternative curriculum for any period, the possibility of returning that child to the general curriculum was effectively blocked.

Figure 1. Importance of differential diagnosis at two points in time.

Passage of P.L. 94-142 almost imperceptibly reduced the stakes in making differential diagnoses; it took the pressure off public school personnel in their classification efforts. We believe this is why today school personnel tell us that they know the child is mentally retarded but classify him or her as LD because there is no upside to calling a child mentally retarded. Apparently they don’t believe there is a downside to making an “erroneous” classification. Why? While a diagnosis of one of the disabling conditions recognized under IDEA establishes *eligibility for special education and related services*, other provisions of the law call for the IEP to be individually negotiated for a child. No longer does the diagnostic category under which a child’s eligibility is established carry with it any consequences for the curriculum; those are negotiated. Similarly, the LRE provision of the law precludes placement of all children in a given category in a given administrative arrangement (e.g., a special class). Placement also must be individually determined on a case-by-case basis. One consequence is that a very low cognitive child being diagnosed as LD could conceivably get a functional curriculum delivered in a special day class if that is the result of the IEP process considering LRE on an individual basis. In other words, the diagnostic category is not determinative of the placement or the treatment a child will experience, making diagnosis no longer a high-stakes venture.

VARIABILITY WITHIN THE SI LD POPULATION

A teacher hired to teach LD students is likely to encounter a very heterogeneous group of students identified as LD by the three-stage process described. However, the degree of heterogeneity and the nature of the LD students they encounter will vary as a function of the state in which they live and the school building in which they are employed. Simply looking at the prevalence rates for LD in the public schools across states reveals considerable variability in the percentage of children identified as LD. The *Twentieth Annual Report to Congress on the Implementation of the Individuals With Disabilities Education Act* (U.S. Department of Education, 1998) reported that 3.28% of the children in Georgia and 3.40% of those in Kentucky are classified as LD, while 9.62% in Rhode Island and 9.90% in Massachusetts are so classified. While the variability in LD rates across states is less pronounced than is found for MR or ED (Hallahan, Keller, & Ball, 1986), it is far greater than one would expect for a clinical entity reliably assessed. Table 2 shows the percentage for all states. In all probability, the children served as LD in Georgia and Kentucky do differ in important ways from those served in Rhode Island and Massachusetts. The key here is that there is variability in LD prevalence across states attributable to a number of factors such as different criteria for eligibility and different perspectives on classifying children as MMR. It is also important to keep in mind that data aggregated at the state level tend to obscure variations within states at the district level.

In addition to differences in the rate of LD identification, it is important to factor in the point raised earlier that the nature of the SI LD child varies for urban and suburban school districts. Evidence has been

presented herein clearly documenting that LD students in urban settings represent very different learning problems that do those in suburban districts. They score lower on measures of intelligence and require that we consider sociocultural factors as contributors, if not causes, of their learning difficulties. They frequently come from families living in poverty. Thus, factors such as low birthweight, exposure to lead, exposure to prenatal substance abuse, living in crowded residences, being raised by parents with less formal education, and various other conditions associated in the past with the condition of MMR are clearly salient to the current urban LD population.

Variability is also evident in the breakdown of SI LD by gender. For example, national projection data from the 1997 Office of Civil Rights survey reveals that 68.35 percent of LD are male, with 31.65 percent being female. While this gender disproportion has been widely accepted in most of the mild disability categories, it is not as apparent when surveys employ RI LD samples. For example, in the Connecticut Longitudinal Study (Shaywitz, Fletcher, Holahan, & Shaywitz, 1992; Shaywitz, Shaywitz, Fletcher, & Escobar, 1990), a two-stage probability sample used RI LD criteria of two types: (a) an IQ-based regressed discrepancy of 1.5 SD and (b) low reading achievement (using an age-adjusted standard score $\leq 25\%$ on the Reading Cluster of the Woodcock-Johnson). Neither the discrepancy criteria nor the low reading achievement criterion yielded differential rates by gender. It seems reasonable to speculate that the gender difference so apparent in SI LD populations arises from differential expectations and/or concomitant externalizing behaviors accompanying reading difficulties for males and factors associated with teacher referral behavior. MacMillan, Gresham, Lopez, & Bocian (1996) found gender differences in referral rates of teachers for White and Black students, but not for Hispanic students.

When rates of SI LD by racial or ethnic group are aggregated at the national level and examined, the issue of overrepresentation of Black students found in the mental retardation category is not found for LD (MacMillan & Reschly, 1998). However, it is noteworthy that the percentages of White, Black, and Hispanic children served in the LD category have also increased dramatically. Yet, because the increase has been “proportionate” (at approximately the same rate for all three ethnic groups), it is not viewed as a problem. In 1978 the projected national figures showed that 2.23% of Black students were being served in LD; in the 1997 survey 6.15% of Black students were being served in LD. For White students the change in the same period was from 2.23% to 5.53%. Using the 1997 survey data, there are considerable variations across ethnic groups. For example, the percentage of Asian/Pacific Island students served as LD is only 1.90% in contrast to the following percentages for other ethnic groups: American Indian/Alaskan, 6.41%; Hispanic, 5.99%; Black, 6.15%, and White, 5.53%. Hence, comparing the rates to that of White students suggests no overrepresentation for Black and Hispanic students; however, if one uses the rate for Asian/Pacific Island students, there are considerably higher rates for all other ethnic groups.

ISSUES RAISED ABOUT THE CURRENT PROCESS

Inherent in the current process is the apparent belief that differentiation of the broad band of children presenting with low achievement is essential in order to match treatment to individual need. Federal and state regulations promote such distinctions, providing criteria to be used in the identification of, and distinction between, children with LD, mental retardation, speech and language impairments, and emotional disturbance. On the other hand, evidence has been presented herein suggesting that the public schools give lip service to this process but have increasingly used the LD category in a manner quite different from that suggested in these regulations—as a cross-categorical designation. As we have argued elsewhere (MacMillan, Gresham, Siperstein, & Bocian, 1996; MacMillan et al., 1997, 1998), the time has come to consider the limitations of current policy and to examine the consequences of current practices. Let us turn to the issues we believe need to be addressed in the identification process and then turn to the consequences that we anticipate will result from the failure to resolve these issues.

ELIGIBILITY USING A ONE-TIME-ONLY ASSESSMENT

The current process establishes a child as eligible based on assessments conducted at one point in time (i.e., after referral and failure to respond to prereferral interventions). We see this as problematic in two ways.

First, there is a problem with assessing a child, let's say in third grade, and finding a psychometric profile permitting eligibility as LD. One of the benchmarks currently employed is low academic achievement (usually in reading) discrepant from expected level of achievement (based on IQ). Assessing current level of functioning, however, is unable to inform us as to "why" the child's academic performance is low. Among the low scorers in third grade are some children who, in fact, do have problems processing information despite good instruction in first and second grade. Others who score low have no serious problems processing information yet score low because they have not been instructed well in first and/or second grade. The current process, which uses a "one-time-only" assessment, fails to differentiate between these two possibilities. Hence, it is difficult to refute the contention of those who argue that a child identified as LD in third grade is not simply a failure of general education. This issue is independent of the debate over discrepant versus nondiscrepant low achievement, and rather derives from the provision regarding exclusion in the reauthorization of IDEA 1997 to include children who have not had the opportunity to learn—they are not to be identified as having a learning disability.

Given the previous data provided on children in urban districts identified as LD, this distinction becomes even more important. We know that inner-city schools are staffed more often by new teachers (currently in some districts, the majority of which lack credentials) and teachers who are unable to secure transfers to more affluent schools. Urban districts often have older school buildings with poorer equipment, fewer amenities such as adequate computer facilities, and student bodies often coming from more disadvantaged backgrounds. The likelihood of confusing "disability" with "disadvantage" in such settings is great, yet the current process provides little direction for distinguishing between the two. How is one to establish that the low reading achievement exhibited by a child in third grade is not due to "a lack of opportunity to learn"? Currently, this requirement is met in a cavalier fashion—at best by attesting to the prereferral intervention efforts. However, prereferral interventions are a nonspecific, often very weak intervention seldom targeted to the problem prompting referral and seldom, if ever, implemented with fidelity.

Elsewhere in this volume (see work of Torgesen) is presented converging evidence that in the area of reading, there are validated procedures which if implemented are successful in promoting significant improvement in reading skills in children presenting with reading disabilities (see, for example, Foorman, Francis, Winikates, Mehta, Schatschneider, & Fletcher, 1997; Torgesen, Alexander, Wagner, Rashotte, Voeller, & Conway, 2001). Less systematic work has been done in the area of mathematics. However, the benefit of structured instruction in mathematics has been demonstrated to reduce the gap evident upon entry to school for low socioeconomic status (SES) students in comparison with high SES students (Case, Griffin, & Kelly, 1999; Griffin & Case, 2000). The Number Knowledge Test (see Griffin & Case, 2000, Appendix A) provides a quick reliable assessment of the child's developmental stage in elementary math. Moreover, 6-year-old children who attended school in low-income areas and were ready to enter first grade performed at the 3- to 4-year-old level on the Number Knowledge Test. A program called Rightstart was developed (the name changed to Number Worlds later) and appears successful for many children in promoting number facility in initially low-scoring, low SES students, enabling them to perform at a level comparable to that of high SES children. Empirically validated procedures are in place that could be used to ensure "the opportunity to learn" reading and math. Before using a one-time-only assessment to establish the presence of a disability, it seems reasonable to ask that validated interventions implemented with integrity are provided and that the child's responsiveness to these interventions is examined prior to labeling.

A second concern with the current process derives from the mere fact that whether a child will exhibit the requisite "severe discrepancy" is, in part, a function of the age/grade level at which the assessment occurs. Requiring a discrepancy between achievement and intelligence has been characterized as a "wait and fail" method of classification because several years of schooling are usually required in order to obtain a sufficiently large discrepancy to qualify as LD. Failure to target reading problems early, as one waits for the discrepancy to be achieved, has been a concern of many (e.g., Fletcher & Foorman, 1994; Speece & Case, submitted). Delays in targeting treatment permit the child to flounder, experience additional failure, and reduce the probability that treatments will be effective once they are finally introduced.

An alternative to using one-time assessments to document a severe discrepancy has been described by Lynn and Doug Fuchs (Fuchs, 1995; Fuchs & Fuchs, 1998). Their approach, based on tenets of treatment validity, uses curriculum-based measurement (CBM) that provides for repeated measurement and is sensitive to change or growth. The approach contrasts the entry-level skills to those of classmates (level) *and* rate of progress over time (slope) in comparison to classmates receiving the same quality of instruction delivered by the same teacher. Fuchs and Fuchs (1998) used the term “dual discrepancy” to capture the criteria employed by their approach to LD eligibility: *both* level and rate of progress have to differ from that of peers to be eligible. In a recently reported study, Speece and Case (submitted) compared children identified as dually discrepant (level and slope using CBM measures) with others exhibiting an IQ-reading achievement discrepancy. The dually discrepant group was lower in IQ and younger than the IQ-reading achievement discrepant group; however, the two groups did not differ on reading, phonological awareness, social skills, or SES measures. Interestingly, neither approach identified a gender disproportion, while the dual discrepancy approach did identify a larger proportion of younger children. Obviously, we do not know which approach identified the “real LD” cases; however, the use of repeated measurements tracking growth strikes us as an attractive feature. The downside of this approach is its labor-intensiveness, thereby reducing the likelihood of it being adopted widely in the public schools.

Going beyond the “opportunity to learn,” there is the possibility that really poor instructional programs may not only prevent optimal development, but may actually have a deleterious effect on the child. Consider the work of Kellam, Ling, Merisca, Brown, and Ialongo (1998), albeit dealing primarily with aggressive behavior, as it bears on the influences of classroom context on the course of behavior. In this study, involving 19 public elementary schools, schools and teachers were randomly assigned to intervention or control conditions and children within each school were assigned sequentially to classrooms from alphabetized lists. Despite these efforts to randomize, “...classroom differences in levels of aggressive behavior emerged as early as the first quarter of first grade, suggesting that the very origins of variation in classroom aggression levels came from the classroom teacher and/or the mix of students and the teachers” (p. 181). That is, classrooms (as opposed to poverty, school building) were associated with levels of aggression, and the levels of aggression evident in classrooms were bimodally distributed—either high or low levels of aggression being evident. When these students were followed into middle school, aggressive males from these “chaotic classrooms” were at increased risk for serious conduct disorders. The authors summarized the importance of first-grade classroom contextual factors as follows:

We suggest the following hypothetical model to better understand the classroom effect on the more aggressive males. The skills of the teachers in highly aggressive, disruptive classrooms were not sufficient to promote an integrative prosocial classroom social system. Effective classroom behavior management appears to be essential in the socialization of young children, and for boys whose initial behavior response is aggressive, disruptive, the lack of providing teachers [with] sufficient background training is critical. Teacher training does not provide effective methods and experience in classroom management. This, coupled with the lack of staff support for the classroom, places such children at greater risk of later conduct disorder and related academic problems. (p. 182)

In their conclusions, Kellam et al. stated, “The implications of these findings are that the first grade classroom has a critical impact on the developmental course of aggressive behavior for the boys whose initial responses to classrooms are aggressive, disruptive” (p. 184).

What is the likelihood that a first-grade teacher who has difficulty controlling behavior also has difficulty teaching reading? If the students do not attend to instruction, that instruction is unlikely to have an effect. Moreover, if the inability to control behavior is an indicator of a poor or inexperienced teacher, then we would likely see similar weaknesses in the instructional program provided to students in the class. Where do we tend to find more inexperienced or ineffective teachers? We submit it is in the same schools where we find “at risk” students because of the presence of poverty, second-language issues, deteriorating classrooms, higher mobility rates for students, and so forth. When one conducts a one-time assessment in third grade and finds a discrepancy between aptitude and achievement, how risky is a conclusion that it

reflects a within-child problem? When an IEP team excludes inadequate prior instruction as a contributor to the child's learning deficiency, on what basis is that determination made? The need for consideration of such contextual factors is paramount, but heretofore too often ignored in the LD field (Keogh & Speece, 1996).

In contrast to the field's willingness to consider environmental factors to explain or understand mild mental retardation, the field *assumes* that achievement deficits exhibited by students labeled LD are due to within-child, neurological factors. The denial evident in the exclusive focus on intrinsic factors will not serve the field well. The population of students served as LD includes substantial numbers of children whose academic performance deficits are clearly linked to environmental influences and contextual factors, traditionally excluded from consideration by the LD field.

ASSUMED INTRINSIC/NEUROBIOLOGICAL ETIOLOGY OF LD

During the late 1970s increased attention was devoted to refining the definition of LD. Zigmond (1993) noted that an improved understanding of the condition emerged from research, in terms of "the psychological, cognitive, neurological, and neuropsychological characteristics of students with learning disabilities..." (p. 256). An alternative definition resulted after years of discussion by the National Joint Committee on Learning Disabilities (NJCLD; McLoughlin & Netick, 1983)—a definition characterized by Zigmond as reflecting "a growing consensus regarding the intrinsic nature of the disorder" (p. 256). The wording in the definition certainly reflected this perspective: "These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction" (McLaughlin & Netick, 1983, p. 22). This preoccupation with intrinsic/neurological factors explains in part why so little is known about the contextual influences on the expression of learning disabilities (Keogh & Speece, 1996). Although LD is "intrinsic to the individual, *presumed* to be due to central nervous system dysfunction" (Kavanagh & Truss, 1988, p. 1), acceptance of this hypothesis does not negate the powerful role of environmental features in either the amelioration or exacerbation of a learning disability. The bias in the scientific study of LD toward intrinsic explanations of the disorder has led to virtual disregard of the contextual factors that either coexist with or are causal to learning disabilities (Speece, 1993). If the problem resides "within the child," then it logically follows that one would not examine experiential factors, home and neighborhood, or parent educational level, as these would be of interest only if they somehow contributed to central nervous system (CNS) dysfunction.

The combination, however, of one-time assessment and the inability to rule out prior instruction and experiential factors as contributors to a child's deficiencies in academics, particularly reading, leads to serious questions about the presumption of a neurological basis for the problem. The more recent research on reading interventions based on phonological awareness noted previously (see Foorman et al., 1997; Torgesen, this volume; Torgesen et al., 2001) suggests that a substantial proportion of young children presenting at one point in time as deficient in reading skills can be taught using moderately intensive interventions. Interestingly, after exposure to these treatments, small percentages (usually 4–10%) of these disabled readers are "nonresponders" who appear to resist even these intensive instructional efforts. Are these (the nonresponders) the cases of "neurologically based" learning problems, while the rest (over 90%) are simply "instructionally underserved"? We suspect that children coming from the most poverty-stricken circumstances not only enter school behind on readiness skills, but also are most likely to be exposed to primary elementary teachers with the least experience or the least success in promoting reading achievement. As long as the schools identify children as LD on the basis of one-time assessments without truly examining response to "good instruction," the practice of classifying them as "learning disabled" (suggesting in-child problems) and presuming a neurological basis for the deficiencies is an inferential leap that is risky at best.

It is also noteworthy that the program of research on reading disability (e.g., Fletcher, et al., 1998; Shaywitz et al., 1990; Shaywitz et al., 1992; Shaywitz, et al., 1995) fails to identify any processing differences between discrepant low readers and nondiscrepant low readers, calling into question the salience of an IQ-achievement discrepancy as a "marker" for reading disabilities. This topic is addressed in detail elsewhere

in this volume (see Fletcher et al., this volume) and we raise it here only to further challenge the neurological basis for LD. If nondiscrepant poor readers and discrepant poor readers do not differ on processing variables, apparently either absolute low achievement is indicative of neurological dysfunction or IQ-achievement discrepancy is not a “marker” of such neurologically based learning difficulties presumed to define LD.

CURRICULAR CONSEQUENCES OF THE HETEROGENEITY OF SI LD POPULATIONS

As long as special education and related services for LD students in our public schools absorb students with IQ scores of 70–85 as well as those with scores below 70 there are serious issues to be addressed in the area of curriculum modification. It is clearly evident that the public schools are not willing to identify children in this IQ range as mentally retarded (MacMillan, Siperstein, & Gresham, 1996). Nevertheless, it is equally evident that this group of children is perceived by teachers as among the most difficult to teach and a group that they are going to refer to, and qualify for, special education services regardless of authoritative definitions and eligibility criteria. Third, they are identifying this group as eligible by “certifying” their eligibility as LD students. As indicated previously, we see this neither as a temporary state of affairs nor as one that will be changing in the foreseeable future. As such, LD is currently operationally defined in the public schools as absolute low achievement, not necessarily discrepant from aptitude and not necessarily excluding cases ostensibly due to mental retardation or circumstances suggesting disadvantage of either a sociolinguistic or instructional nature.

To the extent that treatment is linked to labels we must be concerned—that is, if the treatment provided to all children classified as LD assumes homogeneity among those so labeled, and further assumes similar characteristics and needs, we anticipate inappropriate or, at the very least, untested treatments being applied to a segment of the SI LD students. Take, for example, the intervention treatments evaluated on reading disabled students promoting phonemic awareness. As noted above, one finds a nonresponse rate somewhere between 4 and 10% in samples of reading disabled children studied. However, most of those studies set selection criteria for participating at IQ of 80 or above. As such, we have precious little evidence on the usefulness of these treatments with children scoring below IQ 80, yet we find such children in substantial numbers classified as LD. Which of the SI LD students are likely to profit from training in phonemic awareness? Should acquisition of phonemic awareness be a goal on the IEP for all SI LD students or only for some subset with IQ scores of 80 or above?

Last, and possibly most important, the “treatments” provided to SI LD students have been validated on samples absent the low cognitive students. Consider, for example, that the mean IQ of the urban SI LD students in Gottlieb et al. (1994) was 81.4 while the mean IQ scores reported in MacMillan, Gresham, Lopez, & Bocian (1996) for students referred for prereferral intervention were 87.42 for White, 79.93 for Black, and 78.17 for Hispanic students. Yet, in a meta-analysis published by Swanson, Carson, and Saches-Lee (1996) of intervention studies with LD students conducted between 1967 and 1993, they reported a mean IQ across studies for the treatment groups of 95.79 (with a range of 85–106). If the effectiveness of interventions recommended for “LD students” is based on evaluations implemented with mean IQ scores approximating the national average, and the SI LD population in urban districts contains substantial proportions of students with IQ scores a full standard deviation or more lower, then we really don’t know how effective such interventions are with SI LD in urban public schools.

Furthermore, we recognize that two second-grade students reading at a standard score of 75, regardless of their IQs, resemble one another and may be taught identically by their teacher. However, if one of these children has an IQ of 98 and the other 65, would one predict the same developmental trajectory for these two children? In other words, would one expect these two students to be reading at the same level in sixth grade assuming they are exposed to the “same treatment”? Assuming the efficacy of a certain reading program documented for children with “normal” intelligence (say IQ 80 and above), is there an IQ threshold below which a beneficial result cannot be predicted? That research, we believe, has yet to be done but is crucial to answering the above questions.

Consequences of this failure to recognize that low cognitive students are being identified as LD and whether intensive reading instruction is the “appropriate” (as in FAPE) treatment for such cases are captured in the following passage. In an article published in the *Los Angeles Times* describing the differing perspectives of an experienced teacher and of the district director of special education, who is committed to the primacy of reading, one can see the faith of an administrator that *all* students labeled LD can profit from reading instruction and the belief of a teacher that a functional curriculum would best serve her LD students:

Royalstine Bowman, a 33-year veteran teacher at San Bernardino High School, favors teaching students life skills with a home-grown curriculum that district officials have dubbed “Bowman’s Way.”

She has little patience with current research that focuses on daily doses of phonics instruction for special education students.

Her approach is based on three decades of experience, salvaging teaching manuals dating to 1942, and a belief that even the most impaired learners can be taught to become independent.

For her students, ranging from ninth- to 12 graders, Bowman’s Way means getting drilled on the importance of a firm handshake, a confident introduction and legible handwriting. It means learning how to tell time and how to make change, how to cook and how to fill out job applications borrowed from local fast-food stands and Cadillac dealerships.

For a few students, it also means patient individual help in learning to memorize their home addresses and to spell their last names.

District officials make it clear that they believe Bowman’s Way is outmoded. They plan to replace her curriculum with one that makes expert reading instruction a priority.

“I don’t care what kind of situation a student is in, being in special education is no excuse for not learning to read,” said Joan Roberts, hired a year ago to upgrade the district’s special education program. “I want our students learning to read right up to the last second of their senior year.”

Bowman counters that “the experts don’t know my students.”

“The truth is, not every student goes to college,” she said. “And nobody asks applicants for jobs as custodians and stock boys what their reading level is.” (Colvin & Helfand, 2000, p. 8)

WHERE ARE WE NOW AND WHERE MIGHT WE GO?

It is evident that the “concept” of LD used by the schools deviates markedly from the original concept of LD articulated in authoritative definitions. We have no doubt that the SI LD population reflects a group of children who do, in fact, need assistance; however, among the children identified as LD by the schools are subsets never considered in previous descriptions of LD that acknowledged the heterogeneity present in the original conception of LD (problems in reading, writing, mathematics, verbal expression, etc.). Today, we find children classified as LD who would more appropriately be classified as MR or ED if diagnostic criteria were applied rigorously. As long as the LD category absorbs children with IQ scores in the 70–85 range, as well as those with scores below 70, we will never clean up the LD category. It is of paramount importance that those advocating for a cleansing of LD acknowledge the special needs of these low cognitive children, encourage research that clarifies whether their needs differ in degree or kind from those of the traditional LD child, and advocate for appropriate services for these children. Why? We are convinced that the children whom research criteria would designate as mildly retarded or borderline retarded are far more difficult to teach than a traditional LD child. They require modifications by general education teachers in virtually every curricular area—not just reading. As such, they will continue to be among the first referred and will fill “the special education slots” available at a school site or in a district.

TITRATION OF INTENSITY OF TREATMENTS IN DECISION MAKING

Currently, the LD category appears to be used by the schools as a general, nonspecific category embracing students who can best be characterized as exhibiting *absolute low achievement*. In some ways, its use by the schools negates the need for the “developmental delay” category permitted for younger students under IDEA guidelines. Elsewhere we (MacMillan, Gresham, Bocian, & Siperstein, 1997) have described the decision-making process in the public schools as one that uses resistance to treatments as its guiding principle. Figure 2 is a schematic representing how treatments are titrated and how a child resistant to one treatment is subsequently moved to a treatment that is more intense until the child ultimately receives effective instruction or is reclassified. We characterized the application of increasingly more “intensive” treatments as a titration process. Resources available in the general education classroom are rather weak treatments and a child failing to make adequate progress might receive Chapter I services. However, if inadequate progress persists, the child is referred for prereferral interventions, individually tailored interventions are implemented, and the impact is evaluated. If these prereferral interventions are judged to be ineffective, the child is typically referred by a team for formal evaluation and assessment (described in detail elsewhere in this paper).

The initial diagnosis is commonly LD, often despite a failure to exhibit criteria specified, and the IEP calls for an initial treatment of pullout resource service for a limited duration (e.g., 2 to 4 hours per week). If this action fails to remediate the academic weaknesses, the duration of resource help is increased (e.g., to 6 to 8 hours per week) or a child is placed into a special day class—in some way providing for more intensive academic and remedial treatments. For a segment of the SI LD population receiving the most intensive LD services available, a failure to respond is still noted. In Figure 2 these cases are sometimes reclassified as MR or ED. Recall the experiences of ED students described by Duncan et al. (1995) who were initially classified as LD only to be reclassified as ED later in their school careers.

In the titration model described herein, the data coming from formal assessments contribute little to the decision-making process; instead, they are necessarily collected in order to comply with regulations. IQ data are ignored when they point to mental retardation as a diagnosis and also when establishing “expected” levels of reading or arithmetic achievement for purposes of LD eligibility. This raises the issue of how, if at all, intelligence testing should be used in the process.

ISSUE OF INTELLIGENCE TESTING

Few things have been as hotly debated as the role of IQ, and we do not intend to rehash that history here. Instead, we urge some focused discussion of the usefulness of IQ in classification and informing intervention efforts. Our reading of the literature on discrepant versus nondiscrepant low achievement (see Fletcher et al., 1998) in students with IQ scores of 80 or above seems to conclude that intelligence tests have limited usefulness for the identification of students with LD. Yet administration of such tests is currently mandated for establishing eligibility in most states for students as LD or MR—at what cost? Gresham and Witt (1997) wrote:

Estimates suggest that between 1 and 1.8 million intelligence tests are administered individually to children each year in the United States. Recent survey data suggest that two-thirds of a school psychologist’s time is spent in special education eligibility determination and the typical school psychologist administers over 100 individual tests of intelligence each year. (p. 249)

Evidence presented throughout this paper points to the fact that the IQ data are *not used in making differential diagnoses*. Moreover, even the most ardent defendant of intelligence testing would probably concede that given the omnibus nature of the test, it has no “curricular relevance” (i.e., does not inform us as to what instructional strategies will work). If IQ scores are not used in a consistent fashion for purposes of classification *and* they are not instructionally relevant, does it make sense to mandate their continued use on a wholesale basis merely to establish eligibility? We find little evidence to support their continued use on a wholesale basis.

Figure 2. Titration of intensity of treatments.

The one issue that must be considered, however, if the routine administration of IQ tests is discontinued, is the importance of exclusionary criteria. That is, if a reconceptualization of LD continues to exclude conditions like mental retardation, then the grounds on which to make the exclusionary decision warrants consideration. If a defining characteristic of mental retardation is “low general intelligence,” then there will have to be some basis on which to make that determination. Abundant evidence has been presented (e.g., MacMillan, Gresham, Siperstein, & Bocian, 1996) showing that even when IQ data are presented to document mental retardation and permit the exclusion, the schools ignore it in most instances and do not enforce the exclusionary criteria. Another reasonable position is to adopt a domain-specific approach to what is now LD (e.g., reading disability, math disability) and, without establishing the presence of mental retardation, use an approach consistent with that proposed by Lynn Fuchs in which students with a reading disability, for example, are exposed to best-practice treatments implemented with integrity. For those cases who fail to respond favorably to a validated intervention implemented with integrity, consider the consequences of persisting in pursuing achievement in reading (and side effects of continued failure) and consider providing that child with a more functional curriculum. Does it matter for educational decision making whether a nonresponder has a low IQ or such a severe problem independent of low IQ?

The ultimate decision regarding the use of IQ in classification for school purposes ought to be made after careful consideration of the consequences of the alternatives.

EFFORTS TO “FIX” LD: THE NEED FOR A BROADER PERSPECTIVE

We have seen an ongoing debate over the definition of LD for more than a quarter of a century. During this same time, special education has become more “specialized” in the sense that the generalists have become fewer and fewer and those in our field identify themselves in terms of subspecialties within a disability category (e.g., my area is memory within the LD field). However, as we saw in 1973, a change in the definition of mental retardation was undertaken without consideration of the consequences of this change on the LD population. From the perspective of the schools, the “judgmental categories” (including LD, MMR, ED, speech and language impaired; other health impaired) are being used in idiosyncratic ways in order to serve children the schools believe need special education services. Any attempt to “fix” the LD definition and criteria that fails to consider the criteria for other judgmental categories and issues of comorbidity is, in our opinion, doomed. Furthermore, it is crucial to acknowledge the differences between urban and suburban schools and the implications of these differences for the educational process.

Students served currently as LD, MMR, and ED overlap considerably along certain behavioral dimensions. In terms of reading, students served in all three groups tend to exhibit reading disabilities. Moreover, within a given disability group, the degree of reading disability varies considerably. Another behavioral dimension that is salient to all three categories is externalizing behavior problems. It is a defining characteristic for many ED students, but the frustration experienced by LD students appears to give rise to externalizing behavior problems for many LD and ADHD students (see review by Hinshaw, 1992). Viewed as a Venn diagram, the overlap between members of these disability groups is considerable. A third dimension relevant to all three is the relative weakness in social skills and peer relationships and the frequency with which children in these categories experience social rejection (see Asher & Coie, 1990). As suggested above, the relevance of intelligence is debatable, but might warrant consideration. At present, a categorical approach is used in which children are placed into one, and only one, of the extant disability categories. Yet, a child categorized as LD may, in addition to problems in reading, exhibit significant externalizing behavior problems. Current criteria for ED require that the behavior problems or emotional problems must adversely affect the child’s academic performance. Hence, ED students require effective treatments for behavior and academics.

Our point here is that a multidimensional approach to assessing behavioral dimensions salient to all three current disability categories might provide assessments directly relevant to the treatment program. It may further gauge the severity of a given child’s problem on a given dimension that would inform those crafting

the IEP about the extent to which a given behavior dimension should be addressed in programming. The current assessments measuring static variables often unrelated to treatment protocols fail to capture opportunity to learn as a competing explanation for the low achievement. To the extent that the LD category has embraced students whose low achievement appears linked to experiences of poverty, the issue of sociocultural factors as causes or contributors to the poor achievement simply cannot be ignored. We must recognize that factors of impoverished learners contribute to *both* learning problems in children and how the eligibility process is compromised in schools serving children of poverty.

LD AND SOCIAL CLASS

As noted previously, urban and suburban schools serve LD populations that differ distinctly from one another. The work of Gottlieb et al. (1994) on urban LD students led to the following conclusion: "Data we have collected over a 10-year period indicate that today's child with learning disabilities functions very similarly to the way students with educable mental retardation performed 25 years ago" (p. 453). This finding raises a number of questions for the special education delivery system and those interested in students with LD. Consider that the condition of mild mental retardation is almost exclusively a phenomenon of poverty. Richardson's (1981) research, conducted in Aberdeen, Scotland, where all subjects were White, provided clear evidence that the form of mental retardation with IQ scores above 50 and no evidence of CNS involvement was simply not found in the highest social class strata. Richardson plotted the prevalence of this form of mild mental retardation against the prevalence of two other forms (IQ < 50, evidence of CNS involvement; IQ > 50 and evidence of CNS involvement). In the two lowest social class strata, this form of mental retardation (IQ > 50 and no CNS involvement) constituted the single largest proportion of cases.

In this paper we have provided evidence that children resembling the Richardson cases of mild mental retardation are among the most frequently referred students (MacMillan, Gresham, Siperstein, & Bocian, 1996) and that in urban settings, children with IQ < 85 constitute more than half of the LD population in urban districts. These findings raise a couple of questions in our minds, and we do not know of any data set that provides any answers to the questions. First, in urban districts in which low cognitive children constitute the most visible form of learning problems, are students with the traditional LD profile of low achievement despite average or above-average IQ not being served by special education? We hypothesize that the low cognitive students require the most accommodations in a general education class and therefore deviate most markedly from the model student profile. Teachers in these settings refer these students but do not refer the "traditional LD" cases, or if they do, the committee charged with establishing eligibility uses the available slots in LD programs to serve the low cognitive children. As we discussed previously, this form of false negative case has not been studied and the magnitude of this group is unknown. It would be interesting to know whether fewer cases of false negative LD cases are to be found in affluent suburban districts than in urban districts, given that one would not expect to find the old EMR and borderline children in suburban districts. A second question concerns the proportion of a district's student body that one would expect in the overall special education program. If urban and suburban districts serve roughly the same proportion of their students in the nonjudgmental categories (e.g., visually impaired, orthopedically impaired), but urban districts also serve low cognitive cases associated with poverty *and* traditional LD students, one might hypothesize that a higher proportion of an urban district's student bodies are in need of special education services than is true for suburban districts.

The process prescribed under IDEA plays itself out in very different ways in different school districts. A failure to recognize this leads to false assumptions about the nature of LD students. Moreover, we must come to grips with the realities that school districts serve different populations of children, have differing resources to address problem learners, and make eligibility decisions in light of these different circumstances. At present, schools do not identify cases that consistently fit the idealized models described in authoritative definitions or state education codes. This situation may frustrate the research community and others removed from the front lines of education. At the same time, we know of precious little evidence suggesting that the children who are served as LD in these diverse districts are not in need of help. Any resolution of this state of affairs, in our opinion, must begin with consideration of all judgmental disability

categories, not just LD.

CONCLUDING REMARKS

We urge recognition of one reality driving the public schools' focus on planning for services: They are going to continue serving those students they perceive to be the most in need of help. At present, the way they are serving those most in need is by using the LD category as the vehicle for providing the help they perceive as needed. Doing so has resulted in increasingly less and less overlap between the population of children the schools serve as LD and that described in authoritative definitions and state education codes of LD, particularly in urban schools. We must acknowledge the existence of a large segment of *marginalized* students, many of whom encounter learning difficulties for reasons other than intrinsic, neurologically based causes. Moreover, the public schools recognize this large undifferentiated group of students with achievement deficits, use the LD category to justify serving them, and do so on the basis of absolute low achievement, not "discrepant low achievement." Those whose professional interests reside with the traditional LD student would be well advised to acknowledge the educational needs of the nontraditional LD, join forces with those who advocate for serving these "false positive" LD children, advocate for their being served, and engage in a discussion with advocates for these nontraditional LD students in order to secure appropriate services for them while recognizing and acknowledging differing etiologies and presumably differing educational needs. A failure to do so will, in our opinion, result in a continuation of the current state of affairs, clouding the parameters of the LD category, because many of these nontraditional LD children are among the "most difficult to teach" and will be a priority among public school teachers.

There exists an unhealthy schism between research and practice fueled, in part, by the discrepancy between SI and RI students with learning disabilities. Public school personnel perceive the research community as out-of-touch while the research community often views those in the public schools as uninformed. In truth, the research does not inform practice as the data base derives from a population of "LD" students only vaguely resembling SI "LD" students. An analogy to medicine may clarify our point. Research on the treatment of diabetes informs physicians treating diabetics because the researchers and the practitioners agree on who is diabetic. Researchers studying subjects with LD and the practitioners serving students with LD do not agree on who is LD and, as a result, research does not inform practice.

It is our probably naïve belief that efforts to revise definitions of judgmental disability categories should begin with "low achievement due to..." and then acknowledge that in our best clinical judgment the low achievement is apparent due to one of several factors. Among the factors currently confusing the LD category are (a) low general intelligence, (b) emotional/behavioral conditions, (c) specific processing difficulties, (d) environmental disadvantage, and/or (e) lack of opportunity to learn, particularly because of inadequate instruction. This position obviously favors increased refinement, or differentiation of, categories as opposed to "noncategorical categories." To that end we would argue that one-time assessments cannot make such distinctions as they tap static variables that are insensitive to such distinctions. Instead we would argue for multiple assessments of progress, using measures/scales sensitive to change in response to interventions implemented with integrity. In essence, progress monitoring of achievement after exposure to best-practice treatments intimately linked to the very achievement deficits prompting referral would provide the basis for eligibility decision making. Doing so would require revisions in eligibility criteria aligning the new assessments with the primary concerns of the public schools and tapping those achievement deficits targeted in the reading disability and math disability research. We believe that response to known treatments would begin to further clarify the varied etiologies of learning difficulties and create categories with greater validity (i.e., what one knows about cases falling into each of the categories specified above). In turn, cleaning up the "aptitudes" in the equation would enhance examination of aptitude treatment interactions. One thing is certain; you will never escape the "hall of mirrors that extends to infinity" noted by Cronbach (1975, p. 119) as one studies interactions if the aptitudes are ill-defined. At present LD is ill-defined.

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ENDNOTE

¹We recognize that another step exists, that of prereferral intervention. In the past, referral led to formal assessment; however, current practices typically involve an intermediate step in the process—prereferral intervention. This step entails a variety of modifications designed to keep the student in general education, and only after a child fails to respond to the prereferral intervention is he or she referred for formal assessment to establish eligibility. However, our experience in the schools suggests that in some schools this step is pro forma, and the child will almost inevitably be referred for formal assessment. Gottlieb et al. (1994) reported this to be the case in large urban districts. In other school districts a legitimate effort is made to maintain the child in general education. We decided to exclude this step because we felt it would cloud the discussion. We note the extent to which clinical judgment enters into decisions regarding what intervention will be tried, where and for what period it will be implemented, and judgments about its perceived effects.

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Table 1. School-identified students as LD and classifications based on research diagnostic criteria.

RDC Classifications	No. of Cases	Percentage
LD only	20	32.8
ADHD only	3	4.9
MR only	10	18.0
EBD only	0	0.0
LD × ADHD	6	9.8
LD × MR*	–	–
LD × EBD	0	0.0
ADHD × MR	6	9.8
ADHD × EBD	0	0.0
MR × EBD	1	1.6
LD × ADHD × MR*	–	–
LD × ADHD × EBD	3	4.9
ADHD × MR × EBD	1	1.6
None of the 4	10	16.4
Total	61	100.0

Note: RDC = research diagnostic criteria; LD = learning disabilities; ADHD = attention deficit/hyperactivity disorder; MR = mental retardation; EBD = emotional and behavioral disorders; * = This combination was not possible, as the IQ for LD had to be above 82 and the IQ for MR had to be 75 or below.

Source: Raw data provided by Peter McCabe at Office of Civil Rights.

Figure 1. Importance of differential diagnosis at two points in time.

Time	Placement	Curriculum
1965		
LD	Resource room	Remediation of skills
MMR	Self-contained class	Functional curriculum
2000		
LD	Negotiated as LRE	Negotiated as IEP
MMR	Negotiated as LRE	Negotiated as IEP

Note: LD = learning disabled; MMR = mildly mentally retarded; LRE = least restrictive environment; IEP = individualized education plan

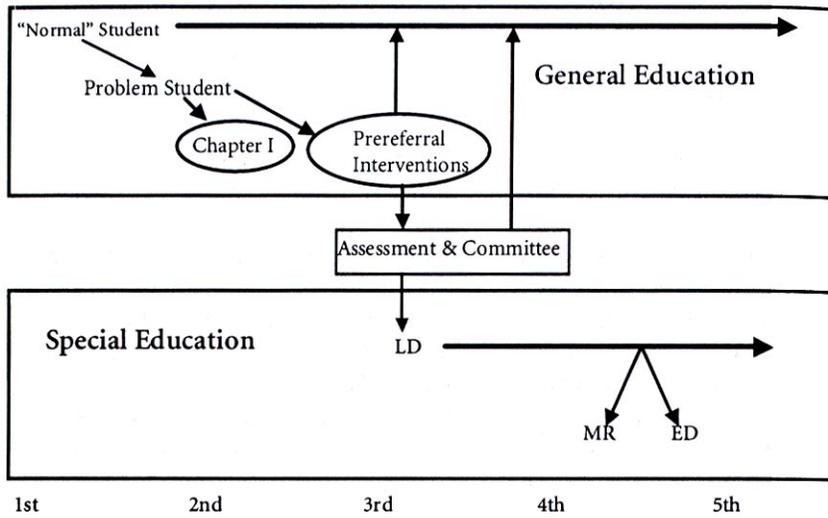
Table 2. OSEP child count data for LD.

STATE	OSEP	STATE	OSEP
Alabama	5.52%	Montana	5.93%
Alaska	7.09%	Nebraska	5.68%
Arizona	5.76%	Nevada	6.40%
Arkansas	4.91%	New Hampshire	6.24%
California	5.93%	New Jersey	8.72%
Colorado	4.90%	New Mexico	8.60%
Connecticut	6.41%	New York	7.32%
Delaware	8.11%	North Carolina	5.17%
District of Columbia	5.79%	North Dakota	4.73%
Florida	6.67%	Ohio	4.41%
Georgia	3.28%	Oklahoma	6.69%
Hawaii	4.99%	Oregon	6.15%
Idaho	5.81%	Pennsylvania	6.12%
Illinois	6.49%	Rhode Island	9.62%
Indiana	5.74%	South Carolina	5.98%
Iowa	6.43%	South Dakota	4.91%
Kansas	4.77%	Tennessee	6.40%
Kentucky	3.40%	Texas	6.86%
Louisiana	4.86%	Utah	5.97%
Maine	6.17%	Vermont	4.35%
Maryland	5.52%	Virginia	6.09%
Massachusetts	9.90%	Washington	4.96%
Michigan	5.32%	West Virginia	6.59%
Minnesota	4.64%	Wisconsin	5.52%
Mississippi	5.53%	Wyoming	6.21%
Missouri	7.11%		

Note: OSEP = Office of Special Education Programs

Source: Raw data provided by Peter McCabe at Office of Civil Rights.

Figure 2. Titration of intensity of treatments.



Note: LD = learning disabled; MR = mentally retarded; ED = emotionally disturbed