READING RECOVERY AND LEARNING DISABILITY: ISSUES, CHALLENGES, AND IMPLICATIONS

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FOR TWENTY-FIVE YEARS THE LEARNING DISABILITIES (LD) FIELD HAS BEEN driven by three fundamental questions: What is a learning disability? Who are the learning disabled? What kind of instruction will help them? Countless articles have been written and research studies have been conducted to address these questions, which remain unanswered. Why? The educational community, researchers, practitioners, and professional organizations (e. g., Association for Children with Learning Disabilities (ACLD), Council for Exceptional Children (CEC), Orton Dyslexia Society) cannot agree on how to: (a) to define the concept, (b) differentiate among various learning problems to classify students, (c) design effective educational programs for LD students, and (d) design staff development programs that enable teachers to learn how to help low achieving students. According to Adelman (1992), experts in the field are having difficulty reaching consensus because they have not developed a theory-based classification scheme, diagnostic criteria, assessment procedures, and effective programs. While the LD field struggles with the many issues resulting from a concept that is hard to define and describe, the number of students considered learning disabled is skyrocketing. Figures reported by the U. S. Department of Education (1990) indicated that from 1976 to 1986, students labeled LD grew from approximately 800,000 representing 22 percent of the special education population to 1.9 million, or 43 percent of the special education population (Singer & Butler, 1987).

There is, however, a well researched intervention program, Reading Recovery, developed in New Zealand by Marie M. Clay (1985), that has substantially reduced the number of children referred for ongoing services. According to figures from the New Zealand Department of Education (1988), the lowest 21.24 percent of the 6 year-old age cohort were served by Reading Recovery and .8 percent of these children were referred for special needs programs (Clay, 1990). Data collected in Ohio during a five year period revealed that less than one percent of Reading Recovery program students were referred to specialists for LD screening (Table 1). These data suggest that Reading Recovery has the potential to reduce the burgeoning number of students diagnosed as LD in the United States.

The phenomenal success of Reading Recovery may be the result of over thirty years of research and development. Clay's understanding of literacy learning is based on approximately ten years of close observation of children engaged in reading work, careful observation of superb teaching, and the study of seminal and recent research provided by a number of scholars and experts in the profession (Clay, 1991). Clay offered the following explanation of literacy acquisition:

> A theory emerges which hypothesizes that out of early reading and writing experiences the young learner creates a network of competencies which power subsequent independent literacy learning. It is a theory of generic learning, that is, learning that generates further learning. The generic competencies are constructed by the learner as he works on many kinds of information coming from the printed page in reading or going to the printed page in writing. (p. 1)

Table 1
Reading Recovery program Children in Ohio Referred for LD Screening 1988-1993

	88-89	89-90	90-91	91-92	92-93
Reading Recovery program children	3344	3994	4336	4652	5091
Reading Recovery program students referred for LD screening	42 (1.26%)	26 (0.65%)	32 (0.74%)	35 (0.75%)	26 (0.51%)

As the preceding quotation suggests, Clay engaged in the necessary conceptual and empirical work to develop the program; something researchers and experts in the LD field are charged with failing to do (Adelman, 1992; Stanovich, 1991).

Perhaps an examination of the theories and principles that underpin the Reading Recovery program will provide helpful insights into how to respond to the issues and challenges faced by practitioners and researchers in the LD field and enable the field to move forward. The purpose of this article is threefold: first, to address the questions and issues raised by recognized scholars in the LD field (Aram, Morris, & Hall, 1992; Moats & Lyon, 1993; Seigle, 1992) from a Reading Recovery perspective; second, to respond to Adelman's (1992) challenge to provide demonstration projects that encompass a comprehensive approach to learning disability; and third, to make recommendations for the future of Reading Recovery and learning disability in the United States.

Addressing Major Questions and Issues

What is Learning Disability?

After thirty years of debate, there is still no universally accepted definition of a learning disability (LD). Further, there is dissatisfaction with prevailing definitions because practitioners and researchers continue to use a variety of descriptors to define the concept. The main issue is how to differentiate LD from underachievement. A discrepancy formula predicated on mismatches between intelligence and achievement is typically used. Many researchers (Fletcher, 1992; Rispens, Van Yperen, & van Dujin, 1991; Stanovich, 1991) argued that using a discrepancy formula is irrelevant to the definition of learning disabilities. Clay (1987) supported this contention and argued that the term learning disability defies definition. Program evaluation data collected during a two-year period in Ohio confirm that the discrepancy formula does not adequately define LD.

In 1985-86, 66 percent and in 1986-87, 80 percent of the first grade children who prior to receiving Reading Recovery were classified as LD by interdisciplinary teams of school professionals, were released from the program reading with the average of the first grade class (Lyons, 1989) (Table 2). These data suggest that it is not possible to distinguish first grade students who are underachieving from those who are learning disabled in order to define the concept.

Table 2
Program Children in Ohio Classified as LD Prior to Receiving Reading Recovery and Discontinued (Released) from the Program Reading with the Average of the Class

	1985-86	1986-87
Program students	110	1130
Program students classified as LD*	35 (32%)	110 (10%)
RR program students classified as LD released from the program reading with average first graders	23 (66%)	88 (80%)
RR program students referred for LD screening	12 (34%)	22 (20%)

Note. *Children classified as learning disabled by interdisciplinary teams of school professionals prior to receiving Reading Recovery.

An alternative point of view may be that children enter first grade with different profiles of achievement because they have had different and varied preschool experiences. For the majority of first grade students, literacy begins early—long before they encounter formal schooling. They have listened to and discussed thousands of stories. They have had many opportunities to read, respond to, and write their own messages. Family members have provided many literacy lessons every day in response to their early attempts to read and write; experiences that will benefit them greatly before they enter kindergarten.

Other children, for a variety of reasons enter school with limited knowledge about literacy and are behind their classmates in reading and writing ability. These children have experienced few literacy lessons. Nobody read to them or helped them write their names. They have had limited opportunities to read or write because there were few books or paper in their homes. While they could express themselves using language and participate in oral stories, they had few opportunities to respond to written language in the form of stories or poems or draw a picture to express themselves. No one served as a model, provided reading and writing materials, demonstrated their use, or offered support as they attempted to read and write. These children have not had literacy experiences that build school valued skills which are necessary for first grade instruction (Heath, 1983; Taylor, 1991). These children, however, are often targeted to receive Reading Recovery. Do they have a learning disability?

Clay's (1991) research indicated that during formal schooling there is a period of transition that may last a few days for some children but several months for others. During this time, children gradually change from nonreaders to beginning readers each in his or her own way and own time. This concept of a time for transition when preschool behaviors change into new forms of responding suggests that within a first grade classroom there are wide variations in patterns of progress. This transition occurs no matter what the approach to beginning reading instruction (e. g., whole language, phonics, literature based, and/or basal). Children are active learners changing over time within their contexts at home, in school, and in the community. Those who enter school with limited knowledge about literacy have more catching up to do in order to benefit from regular classroom instruction.

In 1992-1993, Reading Recovery teachers in approximately 3,800 schools throughout North America served almost 37,300 children. For all these replications, the success rate remained high, with the average percent released from the program reading with the average of the class ranging from 83 percent to 87 percent (Lyons, Pinnell, & DeFord, 1993). Perhaps Reading Recovery should be designated as a prereferral or first net program for first grade students who are having academic or learning difficulties. Then children, who after an extended time in the program do not make progress, would be referred for a specialist's evaluation. This procedure would reduce the number of children misclassified as LD, while distinguishing students with more difficult learning problems who need specialized long-term programs. This approach would enable researchers and practitioners to differentiate between underachievement caused by neurological dysfunctioning and that caused by environmental factors, and in the process would contribute to a better definition of learning disability.

Who are the Learning Disabled?

Since a wide range of individual definitions have been employed in the identification of LD students, it is little wonder that our nation's school districts vary in the ways of determining which students are learning disabled. Federal regulations developed in accordance with the implementation of P. L. 94-142, the Education for All Handicapped Children Act (EHA), advocated the diagnosis of learning disability in terms of process deficits in the presence of average or above average intelligence along with performance assessments in reading, writing, spelling, and math. The process deficits are measured by a battery of tests adapted from various instruments that assess auditory, visual, perceptual, spatial, and motor coordination. In spite of criticism from experts in the field these tests are still used extensively (Algozzine & Ysseldyke, 1986; Fletcher, 1992).

Government policy (P. L. 94-142) stated that the learning disabled are individuals who have a severe discrepancy between intellectual ability and achievement in one or more specific areas. In the state of Ohio, the term does not apply to "children who have learning problems which are primarily the result of a visual, hearing, or motor handicap, mental retardation, emotional disturbance, or environmental, cultural, or economic disadvantage" (Ohio Department of Education, 1983, p. 3). It is generally agreed that a severe discrepancy occurs when the student's score on the intelligence test is higher than his or her score on the achievement test by some specified amount. In Ohio, a discrepancy score that is equal to or greater than two years is generally accepted as reflecting a severe discrepancy.

A procedure for determining the existence of a severe discrepancy between intellectual ability and achievement has not been specified at the federal level or at most local levels (Gartner & Lipsky, 1987). Consequently, methods for making this determination have varied widely across states and school districts within each state. According to Stanovich (1991), any individual with any learning problem can be diagnosed as learning disabled. Because of this identification problem, many low progress readers who do not have a disability are treated as if they do.

Subtests designed to measure student's processing are not the only measures that have been criticized for diagnosing a learning disability. Developmental and educational psychologists generally agree that IQ test scores do not measure an individual's potential in any sense and are irrelevant to identification and analysis of learning disability (Seigel, 1989) or reading disability (Seigel, 1988). Stanovich (1991) argued that discrepancy definitions of reading disability have led educators astray:

> Thus, to the extent that IQ scores were viewed as measures of potential, the practice of diagnosing dyslexia (reading disability) by measuring discrepancies from IQ scores was misconceived from the beginning. In short, we have been basing systems of educational classification in the area of reading disabilities on special claims of unique potential that are neither conceptually nor psychometrically justifiable. (p. 10)

Perhaps it is time to stop relying on process deficit tests, IQ tests, standardized reading tests, scores on reading readiness tests, discrepancy scores, and reading age when selecting students who are in need of specialized help. It would be better to help teachers become careful observers and recorders of young children's early attempts to learn how to read and write. Recent research (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994) revealed that the teacher's ability to observe, analyze, and follow the lead of the child while he or she is engaged in reading and writing tasks and be ready to shift as the child extends capacities is a critical context element in helping low achieving first grade students become successful readers and writers. The most effective teachers change their behaviors in response to children's behaviors.

Clay (1985, 1993) developed an Observation Survey that enables teachers to observe how children engage in reading and writing tasks and note their successful and unsuccessful responses. The observation tasks include (a) running records, (b) letter identification, (c) concepts about print, (d) word tests, (e) writing, and (f) hearing sounds in words (dictation). The six subtests, none of which is sufficient on its own to measure a student's abilities, provide a foundation for what the child has already learned and what he or she needs to learn next. "In complex learning, what is already known provides the learner with a useful context within which to embed new learning" (Clay, 1993, p. 20).

The most important question teachers can ask students, regardless of their ages, is, "What do you know about . . . ?" If teachers do not know what students know and can do, how can they expect to help students construct new understandings? Generally speaking, first grade children have difficulty telling adults what they know. The Observation Survey is a tool for enabling children to demonstrate what they understand about the reading and writing process. It is used by teachers to distinguish among a variety of learning problems. While the Observation Survey does not answer the question, "Who are the learning disabled?" directly, it provides a needed framework for specifying the learning needs of individual students. Then, based on this information teachers can design and implement more effective intervention programs.

What Kind of Intervention Will Help the Learning Disabled?

The third question plaguing the LD field has been more illusive and difficult to answer because researchers and practitioners have not been able to define learning disability or describe and explain differences among low achieving students' learning processes. According to Adelman (1992), "The scope of misdiagnosis and misprescriptions in the field has undermined prevention, remediation, research, training, and the policy decisions shaping such activity" (p. 17).

An extensive body of research supported Adelman's (1992) claims. Gartner and Lipsky (1987), Slavin and Madden (1989), and Allington and Walmsley (in press) documented the general ineffectiveness of learning disability and reading disability programs. The research also suggested that once elementary students are placed in instructional support programs, most often remedial (Chapter 1) or special education (learning disability), they generally remain on the remedial track for a lifetime, rarely outgrowing their disability (Allington & McGill-Franzen, 1989). Yet in America we are continuing to identify primary children as LD and place them in LD programs that have no or limited success. There is little expectation that these students will ever be able to keep up with their peers in regular education classrooms in spite of the fact that the U. S. Office of Education encourages general educators and special educators to make a significant effort to find inclusive solutions for children considered to be LD (Rogers, 1993).

Researchers examining special education and remediation programs (McGill-Franzen & Allington, 1991; Moats & Lyon, 1993; Slavin & Madden, 1989) called for comprehensive programs to help low achieving students learn how to read. Adelman (1992) developed a framework representing a continuum of programs beginning with early age prevention to treatment for chronic problems and challenged the field to design comprehensive demonstration projects that have preventative and corrective implications for a wide range of learning and behavior problems. An examination of longitudinal data collected in ten U. S. school districts that have recently implemented Reading Recovery, as well as Reading Recovery program evaluation data collected over a six year period in two Ohio school districts revealed that there is a comprehensive demonstration project that responds to Adelman's challenge.

Meeting the Challenge

The National Study

In a study conducted in ten school districts representing urban, suburban, and rural areas, Schmidt (1993) found that prior to Reading Recovery, 2.3 percent of the first grade population was referred to LD resource rooms. After Reading Recovery was implemented in the ten school districts, 1.3 percent of the first grade students were placed in LD classrooms (Table 3).

The reduction in the number of students placed in LD resource rooms over the two year period is impressive. What is more impressive, however, is the fact that this reduction was evident in spite of the fact that only 10 percent of the first grade students was served by Reading Recovery during year one and 14 percent of the population was served during year two. As more teachers are trained, the percentage of coverage will increase and as a result fewer students should be referred for LD services.

The Suburban Study

Approximately 400 first grade children are enrolled annually in the five elementary schools in a suburban Ohio school district. The majority of those students learn how to read and write easily. However, approximately one out of every eight experiences difficulty in learning how to read in the primary grades. Prior to implementation of the Reading Recovery program in 1986-87, teachers had adopted a wait-and-see attitude. But after several years of waiting and providing children many opportunities to read and write, they realized that the longer they

waited, the further the children fell behind. Reading Recovery program evaluation data revealed that waiting was not the answer. In the eight years (1986-1993) the program had been operating in this school district, 70 percent to 86 percent of the lowest achieving first grade readers reached average reading levels and continued to make progress with regular classroom literacy instruction. As reported in Table 4, the percentage of Reading Recovery program students classified as LD and placed in LD resource rooms decreased significantly over the five year period.

Follow-up data (Lyons & Beaver, in press) revealed that the majority of the students served in LD resource rooms were not receiving additional help in reading. One student was phased out of the LD program at the end of fourth grade. These data suggest that when Reading Recovery is used as a prereferral program, it is possible to target students who are in need of more intensive specialized help.

Table 3

First Grade Students in Ten U. S. School Districts Referred to Learning Disability Services Prior To and After One and Two Years of Reading Recovery Implementation

	Prior to RR	RR Year 1*	RR Year 2
Total number of first grade students	2569	2602	2572
Number of first grade students referred for LD services at the end of first grade	59 (2.3%)	53 (2%)	34 (1.3%)

Note. *Year 1 refers to the year teachers were learning to become RR teachers.

Table 4

Suburban School District: Reading Recovery program 1986-1991

	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 1 enrollment	340	369	404	391	406
Reading Recovery program students*	22	36	41	42	66
Reading Recovery program students classified LD**	8 (36%)	16 (44%)	12 (29%)	8 (19%)	6 (9%)

Note. *Program students are defined as completing 60 lessons or discontinued prior to 60 lessons. The number of program students served increased as more RR teachers were trained. Initially only one RR teacher was assigned per building; in 1991, there were two teachers per building.

**RR students identified using district and state criteria as learning disabled. No student received both programs at the same time. RR was always implemented prior to the LD program except in a few cases. Less than .05 percent of the children from the total population of first grade students over a five year period were identified to receive LD services rather than RR services prior to Kindergarten and/or first grade.

The Urban Study

In an urban school district, nine elementary schools served approximately 700 first grade students every year. General education and special education district administrators decided that Reading Recovery had the potential to reduce the growing number of first grade children referred to learning disability classrooms.

Figures reported by the U. S. Department of Education (1990) revealed that prior to full implementation, 1.8 percent of the first grade enrollment was placed in LD resource rooms (Table 5). Once Reading Recovery became a prereferral program, that is, low achieving first grade children received Reading Recovery before they were referred for LD screening, the percentage of children classified as LD was reduced to .64 percent. A cost-benefit analysis (Lyons & Beaver, in press) revealed that because the number of first grade students referred for LD placement had been reduced by two-thirds, the school district had saved approximately $100,000 annually.

Table 5
Urban School District: Grade One Students Placed in LD Classrooms Prior To and After Reading Recovery

	1984-1987 (3 Years) Prior to RR Implementation**	1987-1991 (4 Years) After Partial Implementation*
Grade 1 enrollment	1781	1573
Number of students placed in LD	32 (1.8%)	10 (.64%)

Note. *Partial implementation (1987-1988): .08 percent of the first grade population served by nine RR teachers (one RR teacher assigned to each of the nine elementary buildings).

**Full implementation (1988-1991): Sixteen percent in 1988-89 and 20 percent from 1989-91 of the first grade population served by 15 RR teachers (one or two RR teachers assigned to each of the nine elementary buildings).

Program evaluation data collected in these suburban and urban school districts demonstrated that district-wide projects did incorporate prevention, early intervention, and more specialized help for first grade students having learning problems. The results of these evaluations constituted a response to Adelman's (1992) challenge:

> The data from the demonstration project could have major cost-benefit and policy implications for decisions about how to reverse the current overemphasis on special education programs so that limited resources available can be reserved for students who manifest severe and pervasive psychoeducational problems. (p. 21)

Conclusion

Today, school districts throughout the U. S. are reexamining policies and procedures that govern the education of children with special needs, specifically the idea of educating these children in the least restrictive environment. The concept of providing services in the least restrictive environment is not new; it was initiated with the Education for All Handicapped Children Act (P. L. 94–142) in the mid 1970s. What is new is that federal regulations are being interpreted by U. S. courts to require schools to include special education children (the majority

of whom are classified LD) in regular education classroom settings for all or a substantial part of the day. Inclusion, or inclusive education, generally refers to the selective placement of children with disabilities in general education classes (Rogers, 1993).

The inclusion phenomenon has a major impact on this country's regular education and special education programs. Moreover, policies that result from this phenomenon will challenge educators to rethink and redesign instructional programs for children with learning problems. For one thing, regular education teachers have students with special learning needs in their classrooms, and as more and more students are included, teachers will ask for instructional programs to meet the individual needs of these youngsters. In addition, school district administrators will seek programs that are considered inclusive and effective in teaching students with learning problems. Building administrators, with assistance from special educational administrators, will also look for ways to provide high quality professional development programs that prepare general educators to work effectively with children representing a range of abilities and disabilities. Thus, the inclusion revolution raises concerns for special and regular education teachers, administrators, policymakers, and parents. These challenges, however, provide opportunities for educators to work together to determine how to effectively meet the needs of children with learning problems.

The Reading Recovery program for children and professional development programs for teachers provide the needed direction to meet these challenges in three ways. First, the program enables educators to separate first grade low achieving students from children who have more severe learning problems, thus reducing the number of students who will need to be served by special education teachers. Second, the yearlong professional development program provides teachers with opportunities to understand how children think and learn by observing, recording, and analyzing students' reading and writing behaviors. Based on this information, teachers learn how to tailor and adjust their instructional practice to meet the individual's learning gains. Third, effective Reading Recovery teachers continue to develop more complex understandings of the learning and teaching process and refine their skills while interacting with the most difficult to teach students (Lyons, Pinnell, & DeFord, 1993). Thus, the Reading Recovery professional development program not only helps low achieving students learn how to read with the average of the class, but also helps regular education teachers understand and help students with special learning needs who will be placed in their classrooms, and special education teachers better understand how children become literate and their role in assisting the process.

What will it take to define the concept of learning disability, identify the truly learning disabled, and determine what kind of intervention is most effective in helping low achieving students learn? Reading Recovery program evaluation data have provided some valuable insights. The issues discussed in this article represent a part of the picture. If used in conjunction with approaches that address the needs of students with more severe learning needs, Reading Recovery can represent a real chance to make a difference in the lives of young children who are having learning difficulties. The Reading Recovery program presents the opportunity for the merger of special education and general education programs and policies for teachers and children, and perhaps the funding sources of each.

References

Adelman, H. S. (1992). LD: The next 24 years. *Journal of Learning Disabilities, 25*, 17-22.

Allington, R. L., & McGill-Franzen, A. (1989). School response to reading failure: Instruction for Chapter 1 and special education students in grades two, four and six. *Elementary School Journal, 89*, 529-542.

Allington, R. L., & Walmsley, S. A. (in press). *No quick fix: Redesigning literacy programs in America's elementary schools*. New York: Teachers College Press.

Algozzine, B., & Ysseldyke, J. E. (1986). The future of the LD field: Screening and diagnosis. *Journal of Learning Disabilities, 19*, 394-398.

Aram, D. M., Morris, R. M., & Hall, N. E. (1992). The validity of discrepancy criteria for identifying children with developmental language disorders. *Journal of Learning Disabilities, 25,* 449-554.
Clay, M. M. (1985). *The early detection of reading difficulties.* Auckland, NZ: Heinemann.
Clay, M. M. (1987). Learning to be learning disabled. *New Zealand Journal of Educational Studies, 22,* 155-173.
Clay, M. M. (1990). The Reading Recovery programs, 1984-88: Coverage, outcomes and Education Board district figures. *New Zealand Journal of Educational Studies, 25,* 61-70.
Clay, M. M. (1991). *Becoming literate: The construction of inner control.* Portsmouth, NH: Heinemann.
Clay, M. M. (1993). *An observation survey of early literacy achievement.* Portsmouth, NH: Heinemann.
Fletcher, J. M. (1992). The validity of distinguishing children with language and learning disabilities according to discrepancies with IQ: Introduction to the special series. *Journal of Learning Disabilities, 25,* 546-548.
Gartner, A., & Lipsky, D. (1987). Beyond special education: Toward a quality system for all students. *Harvard Educational Review, 57,* 368-395.
Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms.* New York: Cambridge University Press.
Lyons, C. (1989). Reading recovery: A preventative for mislabeling young "at-risk" learners. *Urban Education, 24,* 125-139.
Lyons, C. A., & Beaver, J. (in press). Reducing retention and learning disability placement through Reading Recovery: An educationally sound, cost-effective choice. In R. L. Allington & S. A. Walmsley (Eds.), *No quick fix: Redesigning literacy programs in America's elementary schools.* New York: Teachers College Press.
Lyons, C. A., Pinnell, G. S., & DeFord, D. E. (1993). *Partners in learning: Teachers and children in Reading Recovery.* New York: Teachers College Press.
McGill-Franzen, A., & Allington, R. (1991). Every child's right: Literacy. *The Reading Teacher, 45,* 86-90.
Moats, L. C., & Lyon, G. R. (1993). Learning disabilities in the United States: Advocacy, science, and the future of the field. *Journal of Learning Disabilities, 26,* 282-294.
New Zealand Department of Education. (1988). *Tomorrow's schools.* Wellington: Government Printer.
Ohio Department of Education. (1983). *Ohio guidelines for the identification of children with specific learning disabilities.* Columbus: State Department of Education.
Pinnell, G. S., Lyons, C. A., DeFord, D. E., Bryk, A. S., & Seltzer, M. (1944). Comparing instructional models for the literacy education of high risk first graders. *Reading Research Quarterly, 29,* 1-42.
Rispens, J., Van Yperen, T., & van Dujin, G. A. (1991). The irrelevance of IQ to the definition of learning disabilities: Some empirical evidence. *Journal of Learning Disabilities, 24,* 434-438.
Rogers, J. (1993). The inclusion revolution. *Phi Delta Kappa Research Bulletin, 11,* 1-6.
Schmidt, D. B. (1993). *The effect of Reading Recovery on special education and Chapter One programs.* Unpublished Master's thesis, Pacific Lutheran University.
Seigel, L. S. (1988). Definitional and theoretical issues and research on learning disabilities. *Journal of Learning Disabilities, 21,* 264-266.
Seigel, L. S. (1989). IQ is irrelevant to the definition of learning disabilities. *Journal of Learning Disabilities, 22,* 469-478.
Seigel, L. S. (1992). An evaluation of the discrepancy definition of dyslexia. *Journal of Learning Disabilities, 25,* 618-629.
Singer, J. D., & Butler, J. A. (1987). The Education for All Handicapped Children Act: Schools as agents of social reform. *Harvard Educational Review, 57,* 125-182.
Slavin, R. E., & Madden, N. A. (1989). What works for students at risk: A research synthesis. *Educational Leadership, 67,* 4-13.
Stanovich, K. E. (1991). Discrepancy definitions of reading disability: Has intelligence led us astray? *Reading Research Quarterly, 26,* 7-29.

Taylor, D. (1991). *Learning denied.* Portsmouth, NH: Heinemann.

U. S. Department of Education. (1990). *U. S. Office of Special Education and Rehabilitative Service, Twelfth annual report to Congress on the implementation of the Education of the Handicapped Act,* Table AA20, pp. A33-34. Washington, DC: Author.

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