

LEARNING DISABILITIES: WHO HAS A LEARNING PROBLEM?

J. R. Morrison

CHILDREN WITH LEARNING DISABILITIES (LD children), once dismissed as “dull” or “slow learners” and even today often confused with mentally retarded (MR) children, constitute about 10% of the child population. As with all educationally handicapped children (those unable for any reason to acquire the skills demanded or rewarded by society), LD children were long destined to relatively unproductive or unfulfilled lives. In recent years, advances in the medical and social sciences coupled with greater community awareness have resulted in improvements in the prospects for LD children.

I have learned a great deal from my own experience as the father of a child diagnosed as having learning disabilities and my own extensive involvement in parent groups addressing themselves to problems of learning disabilities. I have heard many stories of parent problems, school system problems, and medical approaches to the problems of learning disabilities. Often this exposure leaves one with feelings of despair, frustration, exasperation, confusion, doubt, distrust, sadness, and general hopelessness. Too rarely the feeling is hope, optimism, elation, and joy when small but significant successes are achieved. Thus the parent who realizes that he has an LD child and who determines to understand the problem and to work toward its resolution has a difficult task. This article discusses some of the problems he will encounter.

Introduction

The Specific Learning Disabilities Act passed by Congress in 1969 defines LD children as, “. . . those who have a disorder in one or more of the basic psychological processes involved in understanding or in using language (spoken or

It has been estimated that about 10% of all children in the United States suffer serious learning disabilities that are attributable neither to commonly recognized physical problems such as blindness, deafness, or cerebral palsy, nor to general mental retardation. This article presents an overview of the plight of such a child in attempting to achieve. Problems faced by the child, parents, educational institutions, and medical and paramedical personnel are discussed. Suggestions are made for remedial approaches to alleviate the difficulties of such a child in learning academically and socially. Some research results by the author on the causes of poor visual-motor control are included.

written), which disorder may manifest itself in an imperfect ability to listen, think, read, write, spell, or do mathematical calculations. These disorders include such conditions as perceptual handicap, brain injury, minimal brain dysfunction, dyslexia, and developmental asphasia.”

This definition is worded as it is to facilitate disbursing funds provided by the bill. Many other definitions emanate from the various professions and organizations that concern themselves with LD children, primarily educational, medical, psychological, legal, and parent groups.

A major factor complicating the remediation of LD children is the proliferation of terms used to describe the same thing. The following quoted material¹ lists some of the large number of terms in use.

We define a learning and language disorder generally as any condition which causes a child to experience significant difficulty with the understanding of, and/or the central integration of and/or the expression of language, whether it be oral language, written language, or both. But we would like to introduce a note of caution regarding terminology and definitions in the field of learning and language disorders.

A search through the literature for descriptive terms and the most common diagnostic labels used to characterize these children, will quickly stun any reader into a state of helpless despair. One source, (Clements, 1966) after a review of the literature from which were excluded those conditions with findings severe enough to warrant inclusion in a category such as cerebral palsies, mental subnormalities, or sensory defects, submits the following terms used to describe the conditions grouped as ‘minimal brain dysfunction.’

Association deficit pathology
Organic brain disease
Organic brain damage
Organic brain dysfunction

¹ Helen P. Gofman and B. W. Allmond, Jr., “Learning and Language Disorders in Children,” *Current Problems in Pediatrics* 1, Aug. 1971, 5-6.

Minimal brain damage
 Diffuse brain damage
 Neurophrenia
 Organic driveness
 Cerebral dysfunction
 Organic behavior disorder
 Choreiform syndrome
 Minor brain damage
 Minimal brain injury
 Minimal cerebral injury
 Minimal chronic brain syndromes
 Minimal cerebral damage
 Minimal cerebral palsy
 Cerebral dys-synchronization syndrome
 Hyperkinetic behavior syndrome
 Character impulse disorder
 Hyperkinetic impulse disorder
 Aggressive behavior disorder
 Psychoneurologic learning disorder
 Hyperkinetic syndrome
 Dyslexia
 Hyperexcitability syndrome
 Primary reading retardation
 Specific reading disability
 Clumsy child syndrome
 Perceptually handicapped
 Aphasoid syndrome
 Learning disabilities
 Conceptually handicapped
 Attention disorders
 Interjacent child

To this list may be added even more: Strep-hosymbolia, analphabetica partialis, amnesia visualis verbalis, bradylexia, congenital typhlexia, congenital word blindness, congenital symbol amblyopia, and neurodevelopmental disorder.

And there are others!

Thus, the fact that many disciplines (medical, psychological, educational, and legal) are necessarily brought to bear on the LD child's problems compounds these problems, rather than easing them, since the various disciplines view him differently and describe him in their own jargon. In effect, this tends to isolate the efforts of various groups to develop and apply means of remediation. One of the greatest hindrances in helping the LD child may be the language barrier that exists among those who attempt to help him.

I prefer to describe the LD child as follows:

The LD child is generally of normal intelligence, but he does not reach the expected potential of other children with normal intelligence, not because of any obvious physical handicap or mental or emotional disturbance, but for developmental reasons.

Those who work with LD children and the parents of LD children scrupulously avoid referring to such children as "mentally retarded" or MR. However, I believe that some LD children are selectively mentally retarded, the distinction between MR and LD children being one of degree. If a child is dull in a sufficient number of intel-

lectual areas, he is classified as MR; but if he is simultaneously bright in a sufficient number of other intellectual areas, he is classified as LD. Mental retardation may be selective enough to strike only specific areas, thus producing an LD child rather than an MR child. In some cases, the only difference between the LD and MR child may be that the LD child has greater potential for learning in more areas than does the MR child. This alone would dictate different remediation for the two.

In the following I will delineate some of the problems faced by the family, the medical profession, the educators, and others in helping the LD child. Various points of view regarding the LD child are presented and typical reactions, from various quarters, to the LD problem are discussed as are recommendations for future remediation.

Typical LD Relationship Difficulties

The Parents' View—Children with learning disabilities are often failures of some sort long before they enter school. Parents, expecting their children to be improved versions of themselves, are often disappointed shortly after the child becomes a family member.

The infant may be such a weak suckler that he must in addition be fed via a bottle with large holes in the nipples to receive even minimal nourishment. He may early demonstrate poor muscle control by failing to grip the mother's finger as forcefully as most children do.

On the other hand, another LD child may be a chronic crier, never giving the household one moment's peace. At an early age, he may be active and always moving about, never seeming to tire.

Either child may, however, appear bright and alert, responding delightfully to sights and sounds.

One LD child may early appear asocial, not allowing anyone to hold and cuddle him. Another may be just the opposite, never wishing to abandon the security of his mother's embrace.

A passive son may be an early disappointment for the father who is sports-minded. However, the mother may feel grateful to have a child who will, hopefully, prove to be nonaggressive and will be easy to manage.

On the other hand, if the child is unusually active he may be admired; for all that activity must indicate a future athlete in the family. Of course, the mother usually has the larger share of respon-

sibility for managing the child. The father may reject any suggestion from the mother that the child is too difficult to manage; her complaints may be received with a remark such as, "What do you expect? After all, he is a boy."

The LD child usually places an inordinate strain on his family. Not only are the father and mother affected, but siblings as well. His behavior may be so aggressive as to keep his brothers or sisters in constant turmoil. Or, he may be so passive that he is readily abused by his siblings. His brothers or sisters may regularly be required to make allowances for his failures, or to be their "brother's keeper," which rarely puts him in their favor.

Sometimes blame for his aberrant social behavior is placed squarely on his mother's shoulders by friends and relatives. And too often, she accepts the blame. She is accused of overpunishing the child by one and underpunishing him by another. She eventually reaches her limit once she has tried every approach in the book (and maybe a few not in the book). Finally, accepting well-intended advice, she and the child may visit a psychiatrist, who very likely does not understand learning disabilities but does know much about guilt and how to teach people to "live with their problems." Too often, the father will have no part of any treatment since he is convinced there is nothing wrong with him or this child, leaving the mother to carry the burden alone. Brothers and sisters often resent the extra attention their LD brother may receive.

Much of the above describes two extremes of behavior manifested by some LD children. However, many of them appear to behave normally at an early age, giving no overt clues of their learning problems. Once the child enters school, and usually by the second grade, reports from school alert the parents to the fact that the child has a learning problem, especially if his performance interferes with the education of his classmates.

What often follows is a series of parent-teacher conferences, followed by evaluations by the school psychologist and others. The child may be placed in a special education class. The parents may find themselves going from one professional to another, trying in vain to obtain definitive information about their child's problems.

The Pediatrician and/or Family Doctor—Contrary to public image, most children in the United States are not attended by a pediatrician or a family doctor. It is a rarity when *any* child receives

any consideration from a physician beyond treatment of usual childhood diseases, injuries, or discernible physical handicaps.

There are, however, some physicians who are cognizant of learning disabilities. There are those of the medical profession who recognize and treat children with learning disabilities. There are family doctors and pediatricians who work diligently to inform their colleagues and to get them involved in diagnosis and treatment of the medical aspects of childhood learning problems. However, any parent who has suffered the problem of getting help for his or her LD child is painfully aware that the medical profession does not abound with doctors such as the one depicted by the television character Doctor Marcus Welby.

One physician writes, "The family doctor is usually the first to recognize this problem [the LD child] . . ." However, one thing is clear; if the family doctor is usually the first to recognize the LD problem, he is frequently not the first to try to do something about it. Even when a parent points out to the family doctor that their child does not seem to behave or perform normally, the doctor's reaction is, too often, to try to soothe the parent with remarks such as, "You can expect this type of behavior; it fits the middle-child syndrome," whatever that is. Or, "He is a little immature, let's see how he does later." Or, "Boys are more active than girls!" And on and on.

What appears to be close to the truth is that ignorance and misunderstanding of the learning disability factors are as prevalent within the medical profession as they are among the general population.

The general reluctance of physicians to become involved in family problems restrains them from contributing any assistance they could offer to a family with an LD child. Such involvement demands personal involvement and much of the doctor's time. Physicians in the Washington-Baltimore area typically charge \$8.00–\$15.00 per office visit, which usually involves from 3 to 8 minutes of their time. The corresponding \$60.00 to \$300.00 per hour required to treat a child whose affliction requires many hours of attention by one who is treating him certainly precludes any serious involvement by the physician. It is little wonder that physicians, in general, retreat from this type of involvement.

The School Community—This topic will be dis-

cussed under the separate headings of: The Teacher, Classmates, and the Administration.

The Teacher. The reactions of elementary school teachers to the LD child are as varied as those of any other person. If she is aware of LD problems, she may bring the plight of the LD children who are in her class to the attention of her school's principal or the children's parents whose reactions as to what needs to be done in turn, are varied. The principal may be receptive and take steps to help the children. Or he may not wish to bother with the attendant difficulties and so will admonish the teacher to solve her own problems.

The parents may react with understanding and relief that someone else has recognized the problem and cooperate in attempting to do what is best for the child. Or one or both of the parents may deny any notion that their child suffers any deficiencies and suggest that the teacher "get on the ball."

The class usually consists of as many as 35 (or more) young children, with 30 of them "normal" learners. The remaining five may be as varied as follows:

1. One sits quietly and bothers no one. However, he cannot use his hands adequately enough to properly learn handwriting. He may verbalize well, but has much trouble learning arithmetic. He may be absent from school more frequently than his classmates. It is easy for the teacher to be sympathetic to this child and perhaps even give him extra help. However, his learning problems may not be discovered.

2. Another child may not communicate with anyone. His body is in the classroom but his mind is within himself. No one dares touch this one because he will certainly object, and the manner in which he protests may be very unpleasant.

3. The third child may be a real "wiggler." He may not sit motionless in his seat for more than a few seconds, if he stays in his seat even that long. This child is in perpetual motion and cannot keep his movements to himself. He is impulsive and may talk out at inopportune times. He may remove items from other children's desks and perhaps throw them at others. He seems to have little regard for the other's desire to learn, and nothing in class holds his attention for more than a few minutes or seconds. This child is easily labeled as emotionally disturbed and is, without doubt, a disturbance to the class. He may have be-

come emotionally disturbed because of his own difficulties and his failure to attain positive interaction with others.

4. A fourth child may appear very bright. He is alert, pays attention, and listens well. When spoken to he responds intelligently. He takes active part in classroom discussions. It might be said that he "verbalizes well." However, when required to read, he may fail miserably. He cannot conquer the written language, even if he clearly intellectualizes superbly on any subject matter and performs well in physical activities. A naive observer would comment that this boy could read if he would just try. But he can't.

5. The fifth child may possibly be a composite or a combination of characteristics described above, except where they are clearly mutually exclusive ones. Or he may be altogether different from any of the others. The examples given are not to be construed as actually existing cases or to be exhaustive, but are given to offer a feeling for the problems a classroom teacher may really face.

Clearly the teacher desperately needs assistance and cooperation from the school staff and parents in the face of any of these problems. Depending on the locale, she may get all, some, or none.

Classmates. The LD child's greatest disaster may very well be his failure to attain a healthy relationship with his peers. If this situation has been deferred during his preschool years, he cannot escape it in the classroom or schoolyard where he is in contact with other children.

Children are too often cruel to one another. Any child whose behavior deviates significantly from the group norm is subject to some form of harassment from others. Even when a child is clearly superior, this difference can elicit abuse from others.

A child who cannot read will be called "dumb" by others, even by his intellectual inferiors. If he is quiet and retiring, others cannot resist trying to "stir him up" to get some reaction from him.

If he happens to be overactive and easily stirred, someone is bound to find some subtle way to over-arouse him to cause excitement and get him in trouble with the teacher or other children.

A child who is intelligent but cannot hit or catch a softball will certainly be called "dumb" and be on the receiving end of much verbal abuse from his teammates when he fails to hit or catch

the ball. He is selectively blamed by teammates when his team loses. He is the last to get on a team when the captains are choosing sides.

Administration. Too often school systems have no established means for ministering to the needs of LD children. Many school districts throughout the United States are still operating in ignorance of learning problems. Often, elected school board members have no understanding of, and, therefore, no sympathy for, the elaborate treatments required to save these children from academic disaster, let alone the requirements for quality academic achievement for these youngsters. If a child is blind, deaf, or otherwise physically handicapped, he stands a good chance of receiving sympathy and possibly good treatment in any community; this is not the case for the LD child. He is often a source of grief for those with whom he comes in contact. He is often misunderstood and mistreated. He is at times treated as a belligerent who refuses to learn or as a behavior problem resulting from poor upbringing by his parents.

Sometimes his teacher tries to involve the school administration in the child's problems; she may or may not be successful. Even when she is, there usually is no assurance that the child's needs will be met, for the school system may not be staffed to evaluate his needs, provide for them, or follow through to see that any plan for remediation is carried out.

However, some school systems are doing an excellent job of handling the special problems of LD children (as well as those of other children with special needs). One such system is the Montgomery County Public School system in Maryland. Though less than perfect, that school system has an excellent plan for special class placement in a *Continuum of Educational Services*, promulgated by the Supervisor of Special Education.

A quick review of the plan and its 12 attachments readily demonstrates the number of people and professions required to properly attend to the needs of the LD child in public school. From the outline, the following people and services are involved:

1. Local school staff.
2. Pupil services staff.
3. Child's parents.
4. Psychologist.
5. Pupil personnel worker.

6. Area screening committee.
7. Supervisors of Special Education.
8. Transportation department.
9. Teacher specialist for Special Education.
10. School nurse and/or school medical advisor.
11. Professionals outside the public school system, e.g., neurologist, pediatrician, etc.

The Continuum of Educational Services plan offers an excellent guide for other school systems and, importantly, for the parent of an LD child, since it shows what a school system can do in evaluation and school placement to help the child. Any parent who has a child with special educational needs would be well advised to obtain a copy to be used as a check list.

The Child—The child is the first one to feel his problem and the last one to know what it is. The LD child is intelligent. He is aware. He compares himself with his peers (as all children do), and the resulting self-evaluation is negative. He may have perception problems, but he can easily perceive that, in specific areas, he does not perform well. He tries to draw and fails while he sees others succeed. He tries to count numbers and fails. He cannot interpret simple symbols, numbers, or letters, but he can see that others do. The concepts of time, hour, day, week, etc., may be impossible for him to comprehend, and he depends on other children for clues when it is time for recess, lunch, to catch the school bus, etc. He may try again and again to catch a tossed ball and fail to do so again and again, while he sees others do so with ease and self-assurance. The LD child's early world is one of constant failure. He may be passive by nature and become a prekindergarten dropout. Or, he may be aggressive by nature and take out his frustrations on anything or anyone he encounters. His frustration tolerance and self-esteem are often at a minimum, a disastrous combination in any social setting for anyone.

It is readily understood that he is rarely accepted as an equal by his chronological peers; however, he may be selectively included in groups of children so that he may be the fall guy or patsy. To sum it up, the child is simply miserable.

During adolescence, the LD child, as do others, undergoes dramatic changes. In so many ways, they are in the process of becoming different people; they have an opportunity for a kind of rebirth. At this period, the adolescent LD child frequently

tries once again to join other children in group gatherings and play.

However, an often overlooked factor precludes this possibility *even if he has outgrown his learning disability*. This overlooked factor is that children learn to interact from each other, not from their parents and not from their school teachers. The LD child is usually prevented from gaining this most important education as a result of insufficient and inappropriate association and interaction with others because of limitations imposed on him by rejection, abuse, and isolation from others. It is important to recognize that many LD children are placed in special education classes that are almost invariably at schools not in their own neighborhood. The resulting isolation during school hours and the fact that they spend, in some cases, 4 hours more daily away from home than their neighbors make it difficult, if not impossible, for them to be able to play with their neighbors after school. Often, the after-school activities are planned at school (or to and from), and the excluded LD child is not included in those plans or even considered. And, since he arrives home 1 or 2 hours after his neighbors do, the play is either already underway or completed. Thus, he is cut out of the normal opportunities for inclusion in the after-school play.

The LD child is too often an underprivileged child because of the above mentioned reasons. He has been denied adequate opportunity to develop as normally as he could, even with his handicap. Imagine a child effectively cut off from the mainstream of life who tries to enter it during his new time of opportunity, adolescence. When he attempts to use the language common to other children, e.g., slang and four-letter words, he fails again. He never had the real chance to learn their meanings and is ridiculed because he uses them inappropriately.

This can result in a disastrous educational gap that is not very visible to the concerned parent who would be happy if their LD child could just learn to read, write, spell, speak, and perform arithmetic.

Some Approaches for Solving the Problem

There are no simple solutions for the treatment of children with learning disabilities. Clearly, this is a problem that requires the cooperation of

parents, educators, physicians, sociologists, legislators, and researchers. By making early diagnosis, it would be possible to initiate remedial efforts and improve the lot of the LD child. The use of modern teaching aids and of teachers especially trained to work with educationally handicapped children would help markedly.

Research Efforts—One of the major areas where considerable work is needed is in research on the causes and treatment of LD children. As a modest example of this type of study, I have investigated the possibility that children with learning disabilities, specifically those handicapped with poor hand-eye coordination, are suffering from abnormally long neuromuscular signal delays. It was suggested that such a delay would show up in the measurement of an individual's simple reaction time.

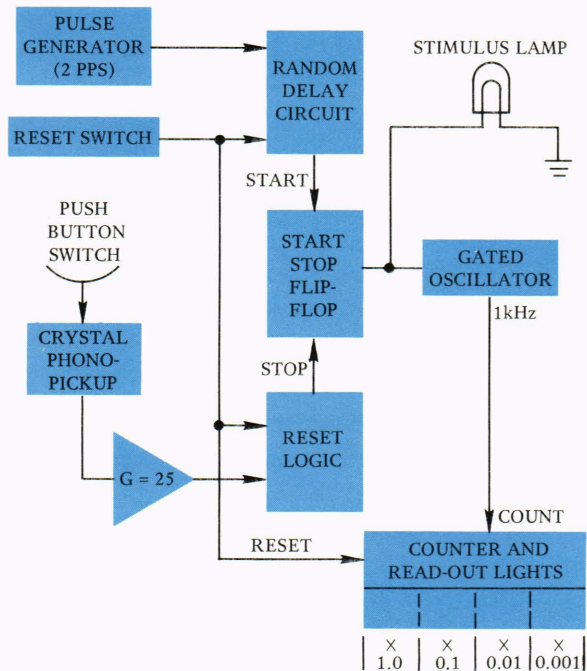


Fig. 1—Simplified block diagram of reaction time meter.

To carry out accurate reaction time measurements, a simple device, whose block diagram is shown in Fig. 1, was designed and built. The functioning of the reaction time meter is as follows: The operator actuates the reset switch, resetting the numerical display, extinguishing the stimulus lamp (if it was turned on initially), and starting a sequence that produces a randomly delayed pulse. After the delay, which is less than 1 second,

the stimulus lamp comes on and a counter is actuated. Upon recognizing that the lamp is on, the subject actuates a button that is mechanically coupled to a crystal phonopickup. A pulse from the pickup stops the counter and extinguishes the stimulus lamp. The subject's reaction time is read from the display.

The subjects were instructed simply to watch the light and press the button as soon as possible after the light came on. They were encouraged to be poised with a finger lightly in contact with the button. Each subject was observed to see whether his attention was on the task; data were discarded when the subject was clearly inattentive. No warning was given; however, the waiting time was never longer than a few seconds.

Data have been gathered from 14 subjects. The data have been processed to derive means and variances of the reaction times which are shown in Table 1. Age, sex, and an indication of whether the subject is an LD child, a suspected (possible or likely) LD child, or a normal child are included. It is clear that the LD children have significantly longer reaction times than normal children. The evidence supports the idea that some LD children have poor hand-eye coordination due to excessive neuromuscular time delays.

Obviously, additional data from LD and normal children need to be obtained to verify these results, and follow-up measurements are required to

TABLE 1
AVERAGE REACTION TIME (R_T) AND STANDARD DEVIATION (S.D.) OF VARIOUS NORMAL AND LD CHILDREN

Classification	Subject	Age	Sex	R_T (sec- onds)	S. D. (sec- onds)
Not LD	1	15	M	0.221	0.028
	2	12	M	0.210	0.033
	3	10	M	0.258	0.070
Possible LD	4	14	F	0.261	0.054
	5	14	M	0.243	0.068
Likely LD	6	10	M	0.317	0.139
	7	10	M	0.323	0.065
	8	9	F	0.319	0.064
	9	9	M	0.341	0.100
	10	9	M	0.349	0.112
LD	11	8	M	0.392	0.101
	12	12	M	0.324	0.100
	13	8	M	0.379	0.065
	14	6	F	0.412	0.128

determine how reaction times vary with age. If the difficulty of poor hand-eye coordination is shown to derive from abnormally long time delays, there are a number of courses that can be pursued in helping LD children learn such skills as handwriting and art. These include the use of stimulant drugs to reduce reaction time and computer-aided display devices that speed up the individuals response by projecting on an oscilloscope the predicted position of the pencil or stylus used. With these computer techniques, time gains of 30 to 50 milliseconds have been achieved.

Help for the Parent—I have selected three sources of information for the parents of a child with learning disabilities (or suspected learning disabilities). These are:

1. Closer Look Mailing List
Box 1492
Washington, D.C. 20013
2. The Exceptional Parent
P.O. Box 101
Back Bay Annex
Boston, Mass. 02117
3. Association for Children with Learning Disabilities, Inc.
2200 Brownsville
Brownsville, Pa. 15210

Closer Look and *The Exceptional Parent* will be helpful for parents of children with various learning and behavioral handicaps, whereas the *Association for Children with Learning Disabilities* ministers primarily to the needs of children with specific learning disabilities. Other sources of information are available, of course, some of which can be obtained from the three sources listed.

Conclusions

The learning disabled child is of near-normal, normal, or above-normal intelligence and is not classified as mentally retarded. He experiences difficulties in acquiring the skills demanded by society and presents formidable problems to the family, the medical profession, educators, and others involved in helping him. An important first step in coping with this problem is getting people to understand it and to be aware of advances in the medical and social sciences which have improved the outlook for LD children to live a useful and personally satisfying life.