Introduction to Learning Disabilities

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PREFACE

Introduction to Learning Disabilities is intended for upper division or beginning graduate students in education. The ongoing research I have been conducting in learning disabilities for over twenty-five years established the foundation for the book. My goal in writing it was not only to provide a comprehensive framework for study in this field, but to share the excitement and satisfaction that comes from working in it.

I have been personally involved in studies on most of the topics in the book: reading, writing, mathematics, spelling, social adjustment, self-management, adapting materials, and study skills. The scope of the book does go beyond these areas, however, to include such areas as language development and the education of handicapped preschoolers.

Although the book does not give equal weight to each and every idea that has come along in the field, it is not a "single-strand" approach. That is, I have not presented learning disabilities from one viewpoint—not neurological, not cognitive, and not as a bedrock behaviorist. I have referenced a wide variety of ideas and themes throughout the book, including some about which I had some disagreement.

Throughout the text, I have attempted to remain unbiased and to present multiple views of the topics at hand. My personal opinions are clearly identified in a comments section that appears at the end of each chapter, and where I felt the need to present another perspective within the body of a chapter, my commentary is clearly identified.

Outline of the Book

The book consists of four major parts and an epilog, which contains recommendations and perspectives for the future.

Part I, Chapters 1 and 2, provides an overview of learning disabilities. Chapter 1 is a review of the historical trends and developments in the field. I have tried to capture the enthusiasm of the early experts by quoting from their works, rather than dryly paraphrasing their beliefs and theories. Chapter 2 is a fairly sophisticated chapter on neurological and pharmacological aspects of learning disabilities. It also covers genetics, heredity, toxic agents, and dietary aspects as well.

Part II, Chapters 3 through 5, is on assessment and services for learning disabled students. Chapter 3 looks at the reasons for assessing these youngsters and reviews various assessment techniques. Chapter 4 provides a unique review of the various locations in which LD students may be educated—regular class-

rooms, self-contained classes, or resource rooms—and discusses the positive and negative aspects of each location. Chapter 5 has to do with consultation and communication. It covers the interactions of those involved in the management and instruction of LD youngsters, including professionals, community groups, parents, and students themselves.

Part III, Chapters 6 through 11, provides details on areas of specific learning disabilities. Chapters 6 through 9, which cover language and communications, reading, writing and spelling, and mathematics, each contain information on normal development and the comparative performances of LD learners. These chapters also review current programs and the latest research in each area.

Chapter 10 describes instructional approaches for LD students. It includes strategies and tactics that cut across academic areas and age levels. This chapter can be considered a "stand alone" chapter in that it can be used as the basis for in-service training programs for all teachers—not just those who work with mildly handicapped students.

The final chapter in Part III, Chapter 11, covers the social and emotional characteristics of LD students. It includes techniques for assessing various behaviors and reviews intervention strategies.

Part IV, Chapters 12 and 13, expands the discussion of LD youngsters to include early childhood (Chapter 12) and secondary school students (Chapter 13). Each of these chapters contains a discussion of characteristics, assessment techniques, and intervention programs. Chapter 13 also includes considerable material on delivery systems and curricular options for LD adolescents.

Features of the Book

Each chapter begins with an outline of the chapter headings, a list of the main ideas within the chapter, and a brief introduction to the chapter contents. These materials provide a guide to the most significant aspects of the chapter topic.

Many of the chapters contain a section on the ever-expanding role of microcomputers in the field of learning disabilities. The computer has become a valuable aid to teachers and other professionals for keeping records, planning, and developing strategies. The computer is also increasingly being used as an interactive learning device, with software programs available for various subjects (for example, reading or spelling) at various age and skill levels. Specific software packages are reviewed in the appropriate chapters, and a few of the research studies on this approach to teaching LD youngsters are summarized.

The comments section at the end of each chapter provides discussion points for students. Many of the comments can serve as the focus of lively classroom discussion, a stimulus for further reading, or the basis for more formal research reports.

An instructor's manual is available that provides multiple-choice and essay questions.

Illustrations are used throughout the text to help clarify certain concepts. In the appropriate chapters, actual samples of tests, recommended procedures,

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and teaching techniques are provided to familiarize readers with the instructional materials being discussed.

Throughout the book, photographs of researchers, past and present, who have contributed significantly to the field of learning disabilities appear along with a few comments about the individuals.

Each chapter opens with a painting by a famous artist. The selection is intended to convey not only the beauty of children but the feelings and moods of childhood as seen by the artist. I have included these pictures—all from galleries in the United States—in the hope they will help readers gain an appreciation for the special children we refer to as learning disabled.

Acknowledgments

As with every undertaking of this type there are a number of individuals who must be acknowledged, many of whom actually helped to develop the project. First of all, I want to thank Ray Short, the editor I worked with at Allyn and Bacon, who saw to it that we came up with a book. I also thank Sylvia Dovner at Technical Texts, where this book was produced. Sylvia has a keen eye and a quick mind, both of which she brought to bear on this volume.

For much of the library work, I thank Kathleen Opie. She looked up countless books, journals, dissertations, and unpublished papers. She certainly knows the library system at the University of Washington and the interlibrary affiliations throughout the country. I also thank Susan Isoshima and her colleagues in the word processing room at the Experimental Education Unit at the University of Washington. They typed and retyped dozens of drafts of the chapters for this book. And among others at the University, I thank Joan Ronk and Lisa DeWitt who rushed the many packages I sent to Boston and environs, and I am grateful to Pat Vadasy for writing the study questions.

I also extend my appreciation to some of the people who reviewed various drafts of the manuscript: Carol Weller, University of Utah; William Wolking, University of Florida; Bill Watson, University of New Mexico; and Edward Polloway, Lynchburg College. They spent many hours pouring over these chapters, and their comments were always helpful and encouraging.

Thanks also go to all of my colleagues in learning disabilities throughout the country who sent me materials, references, and pictures. I never called anyone, but what it wasn't a matter of great urgency ("I need it right now!"), and bless them, they all came through.

I wish to thank my wife for pushing me to include the pictures in this book. She has a good idea now and then. Lastly, I acknowledge the University of Washington for allowing me to fuss with this book for almost three years—never scolding me for taking extra time off to write or for being grumpy when I did show up for work.

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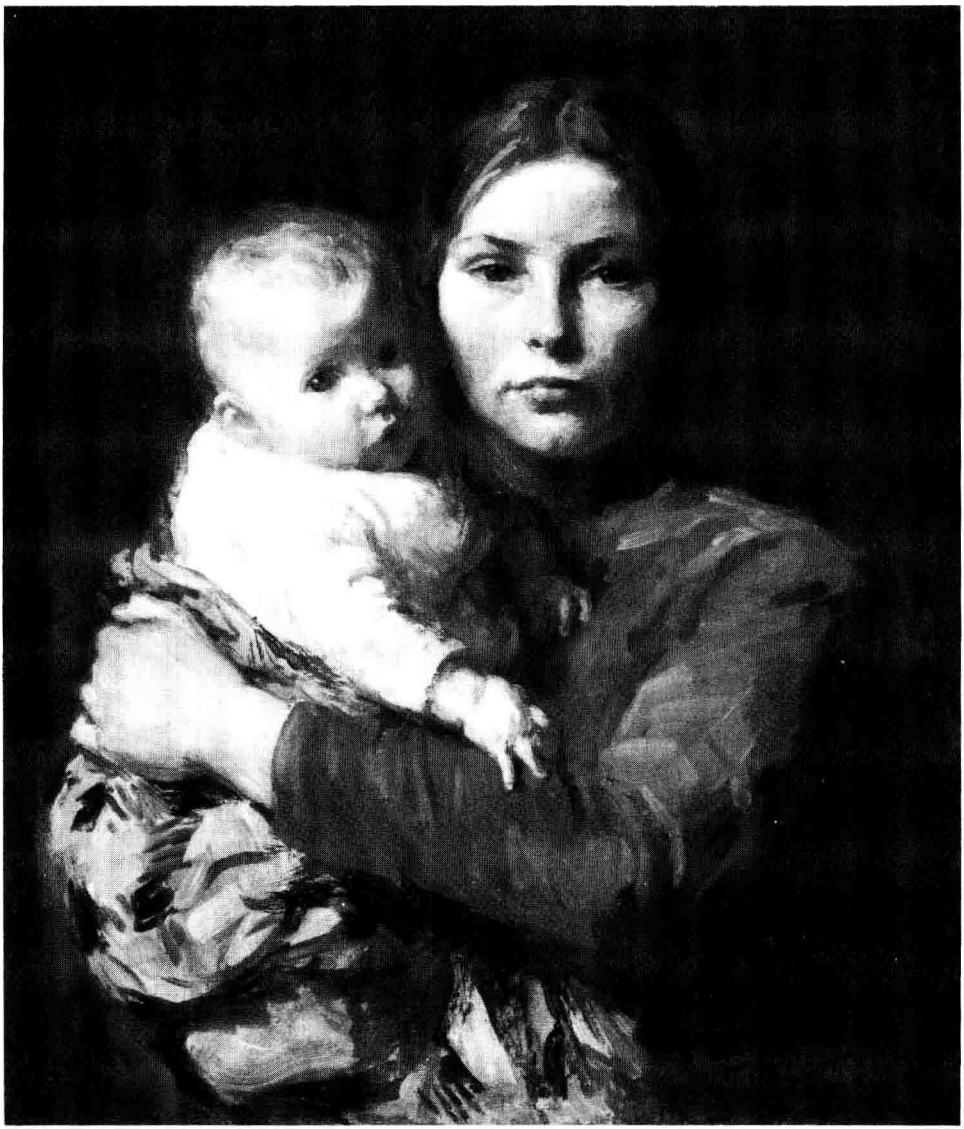
PART I

OVERVIEW OF LEARNING DISABILITIES

Chapter 1



Mother and Child by Gary Melchers (*c.* 1906). Courtesy of The Art Institute of Chicago, gift of James Deering.

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BACKGROUND

OUTLINE

General Issues
Defining Learning Disabilities
Prevalence of Learning Disabilities
Classifying LD Students
A Brief History of Learning Disabilities
Comments and Discussion Points

MAIN IDEAS

- Fundamental concepts about learning disabilities: who is learning disabled, who is interested in learning disabilities, what causes learning disabilities, where and how LD pupils are educated
- Three definitions of learning disabilities and points of similarity: neurological dysfunction, difficulty in academic tasks, discrepancy between achievement and potential, exclusion of other causes
- Statistical data on the number of LD youngsters and the reasons for the increasing incidence of learning disabilities in recent years
- Classification of LD students: diversity, subtypes, and reasons for classification
- Key points and participants in the six major approaches to managing learning disabilities: neurological and perceptual functions, neurological and multisensory functions, neurological impairment and language development, linguistics and modality matching, behavioral and direct instruction, cognitive and metacognitive approaches

OVERVIEW

Learning disabilities is a most exciting, confusing, and important field. This book is intended to provide an understanding of learning disabilities, as well as information about the latest developments in the area and some changes that could come about in the future.

This chapter is intended as a first step toward those ends. The first section contains a set of responses to common questions about learning disabilities. Next is a brief summary of the important definitions of learning disabilities and some data on prevalence. A discussion of attempts to classify LD students follows. The fifth section summarizes the history of this relatively new field. The final section contains comments on the topics covered in the chapter.

GENERAL ISSUES

As an introduction to the field of learning disabilities, this section begins with some basic questions and responses. They are not at all comprehensive. The intent is simply to provide a framework from which to begin a study of learning disabilities.

Who is learning disabled? As a whole, individuals with learning disabilities are a diverse group of people with a wide variety of characteristics. This section briefly identifies some common types of LD pupils. The following comments are from *Because of My Persistence I've Learned From Children* (Lovitt, 1982).

Generally slow. One subset of LD youngsters includes those who are a bit slow in many ways. They have problems in a number of areas: reading, writing, spelling, computing, playing games, and socializing.

Specifically slow. Other LD children have a specific disability. Some are able to compute, write, and socialize, but have great difficulty reading. Others are specifically disabled in spelling or handwriting, and a few are off the mark only in mathematics.

Socially clever. Some LD pupils have highly developed social skills, but are behind their peers academically. Many of these socially clever youngsters have traveled widely and interacted a great deal with adults. They have been given toys and games of several types and have been taken regularly to concerts, museums, and parks. They may even have been tutored privately or attended exclusive schools. For many of these youngsters, even their problems in reading, math, and spelling are more sophisticated than those of other youngsters.

Frequently disruptive. Still other children in the LD category are so classified because they behave inappropriately. In most LD classes there are two or three youngsters who barely qualified for special services; they would not have been eligible had they behaved more suitably. These children can read, write, and perform other academic skills as well as many of their classmates who were not referred for special services, but they were dubbed learning disabled because they talked without permission too often in the classroom, fought too much on the playground, or in other ways disrupted their classrooms too frequently. Most of these children are boys.

Environmentally impoverished. Some LD children come from poor environments. A considerable number grew up with only one parent; others were shifted from one home to another. Still others were physically or emotionally abused. Many were raised in homes where there were only a few books and reading and other academic pursuits were not encouraged. Some LD youngsters have not been cared for physically. They haven't been fed properly; they haven't been encouraged to bathe; they've had to wear ragged and dirty clothes; and they haven't gotten enough sleep. Some of these children, quite understandably, cannot read, spell, or compute too well.

Variably talented. Some LD children give the impression that they simply were not in school when certain skills were taught. They have a number of specific gaps in many areas. For example, they may be able to perform certain skills in reading and math, but lack other specific skills normally associated with these subjects: They read well orally but not silently; they can add but not subtract. Many of these children have missed several days of school. They were absent because they or someone else in their family was ill. They didn't attend when they were shifted from one foster home to another. Many of them missed a number of days when they were taken from clinic to clinic in an effort to find the alleged cause of their disability.

Who is interested in learning disabilities? Learning disabilities are perhaps the most popular of all the areas of exceptionality. One reason for this interest is that a number of famous people have been referred to as learning disabled: Albert Einstein, Woodrow Wilson, Nelson Rockefeller, Thomas Edison, to name a few. Recently, some new names have been added to that group: Tom Cruise and Bruce Jenner (Schulman, 1986). Whether any of these prestigious people were actually learning disabled is not terribly important. What does matter is that their names lend touches of class to the field. Many parents, particularly those of middle- to upper-class status, are willing to have their children labeled "learning disabled" when some academic or social problem has been detected in their children if they feel the rich and famous have also been affected.

The academically and socially conscious parents are extremely interested in learning disabilities and are eager to keep up with advances and trends in the field. Accordingly, the media devote considerable attention to learning disabilities. Rarely does a month pass without a feature article on learning disabilities or dyslexia in one or more of the popular magazines. Likewise, most of the large city daily newspapers regularly run lengthy stories on learning disabilities or dyslexia. Television and radio stations often interview parents of LD youth, as well as teachers and other professionals who work with them.

Interest in learning disabilities also extends to people in a number of professional disciplines: pediatrics, family medicine, neurology, psychiatry, psychology, nutrition, pharmacology, optometry, kinesthesiology, toxology, and of course, education.

What causes learning disabilities? There is quite an ongoing debate about the causes of learning disabilities. Many experts believe that some neurological difference or impairment is the cause. Other authorities link learning disabilities to environmental factors such as poor diet, certain toxins, and fetal exposure to alcohol, nicotine, or other toxic agents. Still other experts maintain that some disorders are related to inadequate instruction. Not a few authorities argue that learning disabilities run in a family. To date, these reasons and others are little more than alleged causes. (See Chapter 2 for details on these presumed etiologies.)

Where and how are LD students educated and by whom? Most LD pupils are educated in either resource rooms or regular classrooms. Some are managed in

self-contained classrooms or in clinics. (See Chapters 4 and 5 for more detail.) A wide variety of techniques is used, some more specialized than others. (See Chapters 6 through 10 for discussions of these methods.) When it comes to instructors, most LD youngsters are taught by specially trained teachers. In many instances, those specialists work directly with LD pupils; at other times they assist other teachers who directly serve the students.

DEFINING LEARNING DISABILITIES

This section is by no means a definitive listing and discussion of the many definitions of learning disabilities that have been written over the past twenty years. Only three definitions are cited here: Those that have had, or will probably have, significant influence on the field.

The first definition comes from the United States Office of Education. It includes the regulations for defining and identifying LD students under Public Law (PL) 94–142:

> 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, or mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage. [USOE, 1977, p. 65983]

According to Mercer, Hughes, and Mercer (1985), 44% of the states are using the USOE definition without modification, whereas another 28% have adopted it with slight variation.

Not every organization has been pleased with the USOE definition, however. The National Joint Committee for Learning Disabilities (NJCLD), comprised of professionals from six groups, argued with five features of the federal definition:

1. The term "children" was unnecessarily restrictive, since a major trend in the field has been the development of secondary-level and adult programs.
2. The inclusion of the phrase "basic psychological processes" generated extensive and needless debate in the field.
3. It was troublesome to include spelling as a separate category, because it is typically subsumed under written expression.
4. The definition of LD is not enhanced by the list of conditions, which include perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

5. The wording of the exclusion clause has contributed to the widespread misconception that learning disabilities can occur neither in conjunction with other handicapping conditions nor in the presence of "environmental, cultural, or economic disadvantage."

Consequently, the coalition issued the following definition in 1981:

> Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g., cultural differences, insufficient/inappropriate instruction, psychogenic factors), it is not the direct result of those conditions or influences. [Hammill, Leigh, McNutt, & Larsen, 1981, p. 336]

After some deliberation, five of the six groups approved the definition. The Board of the Association for Children and Adults with Learning Disabilities (ACALD), however, disapproved it and wrote their own:

- Specific Learning Disabilities is a chronic condition of presumed neurological origin which selectively interferes with the development, integration, and/or demonstration of verbal and/or non-verbal abilities.
- Specific Learning Disabilities exists as a distinct handicapping condition in the presence of average to superior intelligence, adequate sensory motor systems, and adequate learning opportunities. The condition varies in its manifestations and in degree of severity.
- Throughout life the condition can affect self-esteem, education, vocation, socialization, and/or daily living activities. [*Special Education Today,* 1985, p. 1]

The ACALD definition differs in important ways from the 1977 federal definition and the NJCLD statement. It is different from both in its contention that a learning disability can go beyond the academic domain, as expressed in the final sentence of the ACALD definition. Also, the ACALD definition, like that from the NJCLD, differs from the federal statement in that it presumes learning disabilities to be of neurological origin.

Points of Similarity

There are, however, four points of agreement in the three definitions. These points tend to agree with most other definitions of learning disabilities that have been advanced. This section discusses each of the four points.

Neurological Dysfunction. The NJCLD and ACALD definitions directly state that learning disabilities are presumably caused by some neurological disorder,

and this condition is implied in the federal definition. All agree, to some extent, that other factors such as experiences at school or home can exacerbate this condition.

It has been difficult to state unequivocally that many learning disabilities are the result of brain injury, for the traditional means for making such determinations—medically administered electroencephalograms and psychological tests, such as the Bender-Gestalt—have proven to be rather imprecise.

In recent years considerable advances have been made in the diagnostic tests of neurologists and others; hence, statements can be made about brain injury with more precision than formerly was possible. (Chapter 2 discusses advances that are used in documenting brain injuries or neurological differences.)

Difficulty in Academic Tasks. The ACALD, NJCLD, and USOE definitions all indicate that learning disabilities could be revealed as a deficit in one or more academic areas, either in specific subjects such as reading, writing, mathematics, or spelling, or in more general skills such as listening, speaking, or thinking. The ACALD definition goes beyond even those conditions by stating that a learning disability could appear in the form of social or vocational adjustment, daily living skills, or self-esteem. (Chapters 6 through 11 present considerable information on the academic, social, and emotional characteristics of LD youth.)

Discrepancy Between Achievement and Potential. All three definitions also agree that LD youth experience problems in one or more areas in spite of the fact that these young people are of normal intelligence. To determine this discrepancy has posed problems for school personnel who are trying to put the various definitions into practice, for in order to calculate a discrepancy they must grapple with three questions.

How is a pupil's potential identified? Ordinarily, a school psychologist administers an IQ test—frequently the *Wechsler Intelligence Scale for Children–Revised* (WISC–R)—to determine potential intelligence. Therein lies a problem, for the scores from these tests are not as constant and accurate as their proponents would like us to believe. Several factors could affect a youngster's score on a test; for example, lack of sleep, depression, hunger. A far more serious criticism of such tests is that they measure intelligence only insofar as it is defined by the assorted questions and games that make up the test.

How is achievement measured? School psychologists, speech therapists, teachers, or others administer a battery of tests to determine achievement. A common package given to LD youth in Washington state, for example, includes the *Woodcock Reading Mastery Tests,* the *KeyMath Diagnostic Test,* and the *Peabody Individual Achievement Test.* Hundreds of other tests exist in every area. (See Chapter 3, Chapters 6 through 9, and Chapters 11, 12, and 13 for more detail on tests.) Scores from those tests pose another set of problems; a pupil's score on one reading test will not necessarily be the same as his score on another. Such inconsistency has been noted a number of times (for example, in Lovitt, 1986).

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