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ABSTRACT

The essay outlines briefly the historical development of the field of learning disabilities and describes its present status with a discussion of certain selected major issues and controversies. The review ends by describing some of the emerging trends and future directions.

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Learning Disabilities: A Review Essay

For years educators have been baffled by the child who cannot learn academically despite the fact that he appears to have had the opportunity to learn and have the abilities required for successful academic achievement. His problem has been the concern of parents and educators here and across many lands. The terminology may differ, and the type and level of services provided may also differ, but the existence of such children and their learning problems is generally acknowledged.[1] However, the field of learning disabilities, as we know it today, is a relatively recent one. It is generally considered to have begun "officially" when Samuel Kirk first introduced the term "learning disabilities" to a symposium convened by the Fund for Perceptually Handicapped Children in Chicago, on April 6, 1963. In the fourteen years since, one witnesses the tremendous growth in learning disabilities programmes, research activities, and legislations in the United States, and to a smaller extent in Canada. The purpose of this review essay is to outline briefly the historical development of the field, to describe its present status with a discussion of some of the major issues and controversies, and finally to indicate some of the future directions. In short, to borrow the title from Barbara Bateman's earlier paper, "Learning Disabilities — Yesterday, Today and Tomorrow."[2]

HISTORICAL PERSPECTIVES

One of the more comprehensive reviews of the history of the learning disabilities field was given by Wiederholt at the 1974 International Conference of the Association for Children with Learning Disabilities, and later published as a chapter in *The Second Review of Special Education.*[3] Wiederholt described three distinct periods of development:

1. The foundation phase (about 1800-1930);
2. The transition phase (about 1930-1960);
3. The integration phase (1963 - the present).

The earliest foundation phase was characterized by medical theories on brain function and dysfunction. Little attention was paid to the development of special

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[1]L. Tarnopol and M. Tarnopol, (eds.), *Reading Disabilities: An International Perspective* (Baltimore: University Park Press, 1976).

[2]Barbara Bateman, "Leaning Disabilities — Yesterday, To-day and Tomorrow," *Except. Child.* 31 (1964): 167-177.

[3]J. Lee Wielderholt, "Historical Perspectives on the Education of the Learning Disabled," in L. Mann and D. Sabatino (eds.), *The Second Review of Special Education* (Philadelphia: J. Spec. Educ. Press, 1974).

educational programmes for children with problems of learning and behaviour. The transition phase saw the contributions of earlier pioneers such as Samuel Orton, who studied the problems of children with special reading disability which he termed "strephosymbolia,"[4] and Grace Fernald, whose simultaneous visual-auditory-kinesthetic-tactile approach to remedial reading is still very much in use today.[5] A notable milestone with significant impact on later developments was the appearance of *Psychopathology and Education of the Brain-Injured Child* in 1947 by Alfred Strauss and Laura Lehtinen.[6] Strauss described brain-injured children as having the behavioral characteristics of perceptual disorders, perseveration, thinking and conceptual disorders, and behavioral disorders including hyperactivity and disinhibition. The work of Strauss and associates stimulated much research and programming efforts to provide special educational services for the group of children with disorders of perception and other related nervous system sequelae. Unfortunately, confusion and disagreements arose over the inappropriate use of the term "brain-injured child" and its value was seriously questioned. This led to the introduction of a new term "Strauss Syndrome" by Stevens and Birch in 1957 to be used to describe the symptom complex.[7] This new term would avoid any etiological implications and would be essentially a descriptive one.

Another major landmark during this transition phase was the publication in 1960 of Newell Kephart's *The Slow Learner in the Classroom*[8] which became one of the first major texts in the learning disabilities field. It has since been revised in 1971. Kephart, one of the Michigan Strauss-Werner-Lehtinen group, viewed the idea of the perceptual-motor match as being vital to the total learning process. He was among the best known of all perceptual-motor theorists.

Of the pioneers in this field, the efforts of Samuel Kirk and William Cruickshank are generally acknowledged to have major impact on special education in general, and the learning disabilities movement in particular. While Kephart emphasized the conceptualization of perceptual-motor matching, Kirk took the route of C. E. Osgood's model of communication and the Illinois Test of Psycholinguistic Abilities (ITPA), and Cruickshank, the concept of the psychoeducational match and structure.[9]

On April 6, 1963, a symposium was convened in Chicago by the Fund for Perceptually Handicapped Children for all the groups interested in the perceptually handicapped child. One of the major decisions to be made at that conference was a name for the new association. Kirk suggested "learning disabilities" as the least objectionable term for this type of handicap. He said:

> 'I have felt for some time that labels we give children are satisfying to us but of little help to the child himself. . . . I often wonder why we tend to use technical and complex labels, when it is more accurate and meaningful to describe behaviour. . . . Recently, I have used the term 'learning disabilities' to describe a group of children who have disorders in development in language, speech, reading, and associated communication skills needed for social interaction. In this group I do

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[4]Samuel Orton, "Specific Reading Disability, Strephosymbolia," *J. Am. Med. Assoc.* 90 (1928): 1095-1099.

[5]Grace Fernald, *Remedial Techniques in Basic School Subjects* (N.Y.: McGraw-Hill, 1943).

[6]New York: Grune and Stratton, 1947.

[7]G. D. Stevens and J. W. Birch, "A Proposal for Classification of the Terminology Used to Describe Brain-Injured Children," *Except. Child.* 23 (1957): 346-349.

[8]Columbus, Ohio: C. E. Merrill, 1960.

[9]William M. Cruickshank, "Myths and Realities in Learning Disabilities," *J. Learn. Disabil.* 10 (1977): 51-58.

not include children who have sensory handicaps such as blindness or deafness. . . . I also exclude from this group children who have generalized mental retardation.'[10]

Out of this historic meeting, the Association for Children with Learning Disabilities was born and a Professional Advisory Board was formed with Kirk as its first chairman. The acceptance of this new term is evident by the subsequent appearances of programmes and texts dealing specifically with learning disabilities. Thus, the field of learning disabilities entered the present, integration phase. Several major events occurred in the late 1960's. In January 1968, the first issue of the *Journal of Learning Disabilities* made its appearance. Also in 1968, the Division for Children with Learning Disabilities (DCLD) was established within the Council for Exceptional Children. The U.S. National Advisory Committee on Handicapped Children made its first annual report in January 1968 and included the area of learning disabilities in its recommendations for the first time.[11] This committee also presented a definition of learning disabilities which has become the "official" and the most widely used definition since. A more detail discussion on definitions will be dealt with in a later section. The first official recognition at the federal level came in 1970 with the passage of U.S. Public Law 91-230 which contained a subpart that referred to learning disability as a separate handicapping condition. Thus, the field of learning disabilities has come into being as a separate entity in the field of special education.

PRESENT STATUS: ISSUES AND CONTROVERSIES

Where are we in learning disabilities today? A great deal has happened and rapidly since 1963. A variety of learning disabilities programmes and educational delivery systems have mushroomed to meet the unique characteristics of these children. Training programmes at the university and college levels and inservice training programmes have been developed, almost overnight. Research efforts have also greatly accelerated. New theories and strategies are proposed. The amount of lay and professional literature pertaining to learning disabilities has multiplied.[12] Enthusiasm, if not over enthusiasm, abounds. Yet, because of its newness, the field is beset with problems, confusions and misconception.

On the Canadian scene, Canadian special educators face many of the similar problems as their colleagues in the United States and share many similar concerns. A recent review[13] of Canadian policy and activity regarding children with learning disabilities indicates that there has been a national commitment to the learning disabled child, in the amount of research, in legislation, in parent organizations and in the comprehensive CELDIC[14] and SEECC reports.[15] The latter have brought to the national attention the needs of children with emotional and learning problems who require special educational assistance, and of the urgency for trained educators of exceptional children. At the provincial level, the CELDIC

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[10]Samuel A. Kirk, "Behavioral Diagnosis and Remediation of learning Disabilities," *Proceedings of the First Annual Meeting of the ACLD Conference on Exploration into the Problems of the Perceptually Handicapped Child* (Chicago, Ill., 1963), pp. 1-7.

[11]*Special Education for Handicapped Children: First Annual Report of the National Advisory Committee on Handicapped Children* (Wash. D.C.: Office of Educ., U.S. Dept. of HEW, 1968).

[12]F. W. Black, "The Word Explosion in Learning Disabilities: A Notation and Literature Trends 1962-1972," *J. Learn. Disabil.* 7 (1974): 323-324.

[13]R. M. Knights, K. Kronick and J. Cunningham, "Learning Disabilities in Canada: A Survey of Research and Programmes," in L. Tarnopol and M. Tarnopol (eds.), *Reading Disabilities: An International Perspective* (Baltimore: University Park Press, 1976).

[14]*Commission on Emotional and Learning Disorders in Children (CELDIC) - One Million Children* (Toronto: Crainford, 1970).

[15]*Standards for Educators of Exceptional Children in Canada (SEECC)* (Toronto: Crainford, 1971).

report has led to provincial funding to the school systems. For example, the Learning Disabilities Fund was established in Alberta in 1973. However, similar to the U.S. scene, while some progress has been made, many problems and controversies plague the field.

The next section of the essay will review certain issues critical to the field. This review must by necessity be selective rather than exhaustive. On January 15, 1975, an article entitled "Learning-Disability 'Epidemic' " by Diane Divoky appeared in the New York Times. It was based on her earlier article in *Learning* magazine.[16] In a rhetorical and somewhat inflammatory tone, Divoky wrote about the controversies and problems which she perceived to be plaguing the field of learning disabilities. Her article aroused such indignant reactions from many parents and professionals that the editor of the *Journal of Learning Disabilities* asked several leading professionals (S. A. Kirk; B. Bateman; R. L. Masland; D. Hammill; C. R. Strother; B. Keogh and J. McLeod) to respond to the issues raised by her. The debate, in this writer's opinion, probably pinpoints quite clearly the issues crucial to the field. In the words of Barbara Keogh, Divoky's criticisms had to do specifically with:

1. the reliability and validity of diagnostic tools and screening methods;
2. definitional confusions and inconsistences;
3. the motivation behind the rapid increase in the field; and
4. the validity of methods of treatment of remediation.[17]

Keogh believes that the basic, underlying issue or problem is the definition of learning disability, while the other questions of the validity and reliability of diagnostic and remedial techniques are derived from this more basic question of definition. The selection of issues for discussion in this paper reflects this writer's similar perception of the problems.

A. *The Problem of Definition*

What constitutes a learning disability? How shall it be defined? The definition that has been the most influential model is the one provided in 1968 by the National Advisory Committee on Handicapped Children. This is often referred to as the NACHC definition. It states:

> Children with specific learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written languages. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage.[18]

The essential components of this definition are the academic component, the psychological process component, and the exclusion component. While this definition gained wide acceptance initially it was subject to such varied interpretations that it soon met with serious objections and disagreements. The first indicator of a learning disability is a failure to learn, or severe difficulty in reading, writing and arithmetic, etc. However, this does not make it synonymous with any or all learning problems encountered in school, and many over-zealous

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[16]Diane Divoky, "Education's Latest Vicitim: The LD Kid," *Learning* 3 (1974): 20-25.
[17]"LD Leaders Strike Bank at Distorted Reporting," *J. Learn. Disabil.* 8 (1975): 322.
[18]*First Annual Report of the National Advisory Committee on Handicapped Children,* 1968.

advocates have erroneously identified far more children than intended under this label. A major component is the concept of psychological processes, which again is subject to definitional problems. It is frequently interpreted within the framework of perceptual deficits resulting in language disorders. Cruickshank[19] argues that a learning disability, specifically defined, is a manifestation of a perceptual processing deficit, and regards definitions which ignore the concept of either perceptual processing or the neurological base as being misleading. The definition which he advocates for adoption is one stated in perceptual terms, prepared by a group of learning disabilities authorities, chaired by Wepman.[20]

The exclusion component poses some problems also, especially in relation to the intelligence factor. The NACHC definition states that they do not include learning problems which are due primarily to mental retardation, but it does not specify the intelligence variable or level explicitly. This gives rise to a wide variation in range of intelligence of children identified as learning disabled.

The discrepancy component was first suggested by Barbara Bateman to denote "an educationally significant discrepancy between the child's apparent capacity for language behaviour and his actual level of language functioning."[21] This discrepancy of performance, interpreted broadly to indicate discrepancy between potential and educational achievement, seems to be the one characteristic on which all experts agree. The one component which has remained controversial is the question of central nervous system involvement. While many professionals regard a neurological dysfunction as a necessary condition of learning disabilities, many do not and this has led to differences in assessment and remedial approaches.

Surveys of professionals produce a myriad of definitions. For example, a 1973 survey of the definitions used by 100 special education practitioners[22] indicates considerable variations and disagreements. The results of a more recent survey of 42 state departments of education in the United States regarding their definitions of L.D. indicates that 19% of the states surveyed used the NACHC definition without modification, another 36% have modified it somewhat, and 38% are not using it, while 5% of the states reported no definition at all.[23] The results also reflect a lack of consensus regarding an I.Q. range. The one component which was the most prominent factor included in the definitions was the process factor, with process deficits being included in 83% of the state definitions and language disorders in 81%, suggesting that possibly process and/or language disorders represent the core area of an LD definition. The other prominent factors were the academic component and the exclusion component. One can see, therefore, that 14 years since the term L.D. was first introduced, the field is no where nearer an agreement of definition. Yet, a universally agreed upon definition is germane to the important questions of incidence and prevalence, assessment procedures, and the planning of remedial strategies.

One indication of the seriousness of this definitional problem is the recent passage of the Education for All Handicapped Children Act of 1975 by the U.S. Congress which limited the number of children who might be served by

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[19]W. M. Cruickshank, "Myths and Realities in LD," *J. Learn. Disabil.* 10 (1977): 51-58.

[20]N. Hobbs, (ed.), *Issues in the Classification of Children,* Vol. 1 (San Francisco: Jossey-Bass, 1975).

[21]Bateman, 1964.

[22]R. Vaughan and L. Hodges, "A Statistical Survey into a Definition of Learning Disabilities: A Search for Acceptance," *J. Learn. Disabil.* 6 (1973): 658-664.

[23]L. D. Mercer, C. Forgone and W. D. Wolking, "Definitions of Learning Disabilities Used in the United States," *J. Learn. Disabil.* 9 (1976): 376-386.

federal funds as learning disabled to a maximum of 2% of the school population. The Act also requires the U.S. Office of Education to develop an operational definition of "specific learning disabilities". The limitation on the number of children who might be included as learning disabled was intended to protect other programmes from over-zealous advocates of programmes for the learning disabled, and may be considered a "backlash" against the wide variations in estimates of the incidence and prevalence of L.D.

So where do we go from here? Efforts have been made recently to operationalize the definition of L.D.[24] and this seems a promising direction indeed. However, this writer is not too optimistic that this issue can ever be resolved One solace is that programming efforts do continue to proceed regardless.

B. *Early Identification of Children with Potential Learning Problems*

One of the first emphases in the L.D. movement was early identification of learning problems. It received widespread enthusiastic support from both lay and professional groups. One partial explanation for this may be the Head Start movement and the early intervention programmes. Funding became available to early childhood programmes for handicapped children.[25] The growth of early identification programmes was phenomenal, accompanied by the development of instruments, scales and checklists designed to screen and identify early the child with learning disabilities.

The ensuing problems are not unexpected. The most critical one is the question of validity. How valid are the identification instruments or measures? A related question is: How beneficial is early identification? Barbara Keogh's name is probably one name most frequently associated with research on early identification. The first major monograph on the topic "Early Identification of Children with Potential Learning Problems," appeared in 1970, with Keogh as editor. It contains four papers focussed on motor, perceptual, cognitive and emotional aspects of the question, together with discussant reactions. In the introduction Keogh warned of the danger that "early identification might serve to impose limits on expectancies and to develop atmospheres which reinforce learning problems."[26] A much quoted reference is Keogh and L. D. Becker's 1973 article on "Early detection of learning problems: Questions, cautions and guidelines". The three questions raised by them are:

1. How valid are the identifying or predictive measures?
2. What are the implications of diagnostic data for remediation or educational intervention?
3. Do benefits of early identification outweigh possible damaging or negative effects of such recognition?[27]

Keogh and Becker also emphasized that early identification of learning problems before the child has had extensive experience in school is probably more accurately described as predictive of future failure, rather than identification of an already present failure. The validity question is not an easy one to resolve. However, Keogh and her associates have suggested an approach focussing on a functional, situationally oriented assessment of pupils in school settings. In their

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[24]J. C. Chalfant and F. S. King, "An Approach to Operationalizing the Defiinition of LD," *J. Learn. Disabil.* 9 (1976): 228-243; and Mercer et al, 1976.

[25]For example, in Alberta, legislation was introduced in 1973 to provide special grants for handicapped children in Early Childhood Services programmes.

[26]*J. of Spec. Educ.* 4 (1970): 309.

[27]*Except. Child.* 40 (1973): 6.

current series of early identification studies,[28] a shift in assessment procedures is evident, from the use of mostly psychometric test procedures to techniques which get at individual differences in learning strategies or styles, classroom behaviour and problem-solving techniques. Generally speaking, the importance of the teacher's role in early identification is increasingly recognized.[29] The use of systematic observational techniques in the classroom is also more prevalent. Another promising trend is the incorporation into the programmes of follow-up and evaluation components. This is very encouraging.

C. *Perceptual Functioning and Academic Performance*

One of the most hotly debated issues is the relationship between perceptual functioning and academic performance. Does visual or auditory perception relate to the reading process? Does perceptual-motor training relate in some way to academic performance? This essay will focus on visual perception because of the tremendous interest in this area and because it has been studied more extensively than auditory perception. The visual perceptual test that has been most widely used in schools is the Marianne Frostig Developmental Test of Visual Perception (DTVP).[30] Frostig, another prominent pioneer in the field, developed the test to measure five different visual abilities which seemed to her to have special implication for school learning. The five areas which constitute the five subtests of the DTVP are: eye-motor, coordination, figure-ground perception, form constancy, position in space, and spatial relations. The DTVP was first published in 1961 and has been revised twice. Some writers do not distinguish clearly between visual-perceptual and perceptual-motor functioning, and Frostig is sometimes included as a more general perceptual-motor theorist. Strictly speaking, she should be regarded as a visual-perceptual theorist. The assumption underlying the DTVP is that it does measure five distinct areas of visual perception. Many studies which investigated the independence of the subjects have failed to identify five separate perceptual factors. The state of affairs can best be summarized by Hammill and Wiederholt's review.[31] The findings of their own study on the diagnostic value of the Test agree substantially with previous researches that the DTVP measures one general visual perception factor, rather than five as postulated by Frostig. The implication is that only the total score should be used as a measure of the child's general visual perceptual performance. A more serious implication concerns the Frostig-Horne training programme. The consensus of the 40 to 50 studies reviewed by Hammill and Wiederholt indicate that the training programme does not affect the reading ability of children in any way, and may affect some benefits regarding readiness.

An examination of the broader question of visual-perceptual abilities in relation to school learning in general yields a similarly discouraging picture. A comprehensive review of some 60 studies and 600 individual coefficients depicting the relationship of visual-perceptual tests to educational achievement tests of

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[28]B. K. Keogh and M. W. Sbordone, *Early Identification of High Risk and High Potential Kindergarten Children,* Technical Report (U. of Calif. Los Angeles, 1975); and R. J. Hall, B. K. Keogh and L. D. Becker, *Follow-up of Kindergarten High Risk Pupils in the Primary Grades, Technical Report* (U. of Calif. Los Angeles, 1975).

[29]H. F. Schaer, and W. D. Crump, "Teacher Involvement and Early Identification of Children with Learning Disabilities," *J. Learn. Disabil.* 9 (1976): 91-99; and S. Feshbach, H. Adelman, and W. W. Fuller, "Early Identification of Children with High Risk and School Failure," *J. Learn. Disabil.* 10 (1974): 639-644.

[30]Palo Alto, Calif.: Consulting Psychologists Press, 1964.

[31]D. Hammill and J. L. Wiederholt, "Review of the Frostig Visual Perception Test and the Related Training Program," in L. Mann and D. Sabatino (eds.), *First Review of Special Education,* Vol. 1 (Philadelphia: J. of Spec. Educ. Press, 1973).

reading, arithmetic and spelling was reported by Larsen and Hammill.[32] Don Hammill and his associates like Stephen Larsen, Lee Wiederholt and Phyllis Newcomer and others have been the most frequent and vocal critics of the whole issue of the validity of perceptual tests and efficacy of ability training. They have carried out several major review studies on this topic and that is why frequent reference is made to their work in this paper. According to Larsen and Hammill, "while visual perception and its relationship to school learning have received much attention in professional journals, the educational usefulness of this important theoretical construct has never been fully substantiated. Obviously before visual-perception training can be considered visual skills studied in their 1975 review were visual discrimination, spatial justified, its relationship to academic achievement must be established."[33] The relations, visual memory, and auditory-visual integration. Larsen and Hammill concluded from the review that the assumption that these particular visual skills, as defined and measured in that article, are essential to academic achievement, fails to be substantiated. Neither can the assumption that many children fail in school because of visual-perceptual defects be validated.

However, the rebate did not end with the 1975 review. In the February 1976 issue of the *Journal of Learning Disabilities,* the whole debate was raised again with Larsen, Rogers and Sowell's "The Use of Selected Perceptual Tests in Differentiating Between Normal and Learning Disabled Children" in which they dealt with five individual skills, operationally defined by the assessment procedures used. The five "selected" perceptual tests used were the Bender Visual-Motor Gestalt Test, the Wepman Auditory Discrimination Test and the Visual Sequential Memory, the Auditory Sequential Memory, and Sound-Blending subtests of the ITPA. The only instrument found to differentiate significantly between the normal and learning-disabled groups was the Bender Test. They concluded that there seems to be little support for the continued use of these measures as a means of labelling or diagnosing children.

James J. McCarthy, co-author of the ITPA, wrote a rebuttal to the Larsen et al study, pointing out the problems in the study which should reduce confidence in its findings and thereby preclude the drawing of conclusions. One of McCarthy's main criticisms pertained to the tests selected to measure components of "perceptual" ability. The present writer views this as a valid criticism. McCarthy's rebuttal and Larsen's response are published in the June/July 1976 issue of the same Journal. There have also been other reactions to the article, including one by K. Wedell of the University of Birmingham, England, in subsequent issues of the Journal, disagreeing with the Larsen et al oversimplified conclusions. Clearly the controversy is far from resolved.

D. *Efficacy of Psycholinguistic Training*

Another related debate in the entire issue of "ability" training is that of psycholinguistic training. The problem is: Can psycholinguistic skills be trained? If so, the further question is: Is improvement in psycholinguistic skills related to improvement in academic achievement? Given the amount of time, efforts and funds invested in the psycholinguistic training programmes, and the abundant supply of programmes and handbooks, etc., designed to increase psycholinguistic skills, a critical examination of this issue is necessary.

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[32]S. C. Larsen, and D. D. Hammill, "The Relationship of Selected Visual-Perceptual Abilities to School Learning," *J. of Spec. Educ.* 9 (1975): 281-291.

[33]Ibid, p. 281.

Kirk's approach to the diagnosis and remediation of psycholinguistic learning disabilities is probably the most familiar model in the field. The diagnostic instrument closely associated with this approach is the Illinois Test of Psycholinguistic Abilities (ITAP), which, as referred to previously in this paper, has been very widely used both in its original and current revised versions. The ITPA, based on Osgood's communication model, attempts to delineate possible linguistic deficit area in terms of process (receptive-organizing-expressive), level (automatic or representational), and channel (auditory-vocal or visual-motor). There have been numerous studies investigating the ITPA. Of particular relevance to the issue being examined is the recent major review of the ITPA factor analytic research by Sedlack and Weener,[34] and the Newcomer et al study on the construct validity of the ITPA.[35] Sedlack and Weener's review shows that many investigators seriously question the construct validity of the test, rejecting the underlying assumption that the ITPA measures specific channels, level, and processes. Newcomer et al. investigated the construct validity by factor analyzing the subtests with 20 specifically designed criterion tests. Their findings are more positive, generally confirming the assumptions of Kirk et al. that the ITPA measures discrete psycholinguistic variables. Nine of the subtests are found to measure discrete abilities, and two dimensions of the underlying model, i.e., level and process, are substantiated. However, the dimension of channel of communication, particularly the visual modality, constitutes a major weakness. This led them to question the current use of the modality concept which is emphasized in so many psycholinguistic training programmes.

The debate on the effectiveness of psycholinguistic training was started with the publication of a review article bearing the same title by Hammill and Larsen in the September 1974 issue of *Exceptional Children.* In it a review was made of some 39 studies that had attempted to train psycholinguistic skills, using the ITPA as the criterion for improvement of language behaviour. The results led them to suggest that the idea that psycholinguistic constructs, as measured by the ITPA, can be trained by existing techniques, remains nonvalidated. They drew the implication that the efficacy of training psycholinguistic functioning has not been conclusively demonstrated. A major critique of Hammill and Larsen's review by Esther Minskoff, entitled "Research on psycholinguistic training: Critique and guidelines," followed by a response by Hammill et al. appeared in the November 1975 issue of *Exceptional Children.* Minskoff is the senior author of the MWM programme for developing language abilities, based on the ITPA model.[36] Minskoff criticized Hammill and Larsen's over-simplified approach in grouping 39 studies with non-comparable subjects and treatments. She further argued that since each of the 39 studies reviewed included one or more methodological errors, their results must be viewed with extreme caution. In their response, Hammill et al. cited other studies to defend their position that "the reported literature raises doubts regarding the efficacy of presently available Kirk-Osgood psycholinguistic training programmes, and that the burden of demonstrating the vaiue of their programme falls on the shoulders of those individuals who produce and/or advocate them."[37]

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[34]R. A. Sedlack and R. Weener, "Review of Research on the ITPA," in L. Mann and D. Sabatino (eds.), *The First Review of Special Education,* Vol. 1 (Philadelphia: J. of Spec. Educ. Press, 1973) pp. 113-164.

[35]P. Newcomer, B. Hare, D. D. Hammill and J. McGettigen, "The Construct Validity of the ITPA," *L. Learn. Disabil.* 8 (1975): 220-231.

[36]E. Minskoff, J. Wiseman and J. Minskoff, *The MWM Program for Development of Language Abilities* (Ridgefield, N.J.: Ed. Performance Assoc., 1972).

[37]Hammill et al, "A Response," *Except. Child.* (November 1975): 147.

E. *"The Least Restrictive Environment"*

The concept of mainstreaming of handicapped children, including those with specific learning disabilities, is currently upon us. It has provoked controversy within the special education community as well as among general educators. Part of the problem is that the term is subject to wide interpretations. According to the Council for Exceptional Children, mainstreaming is not the wholesale return of all exceptional children in special classes to regular classes. In essence it aims at providing the most appropriate education for each child according to his individual needs, and in the least restrictive educational setting. Because of the numerous definitions of the term, the President of the Council for Exceptional Children write in the April 1976 issue of *Exceptional Children* that it is time we move to the terminology and concepts embodied in the "least restrictive alternative" and drop the term "mainstreaming." The idea of mainstreaming grew out of the concern with labeling and the fact that the educational results of labeling and special class placement have not been particularly encouraging. The idea is not a direct result of events that have occurred within the area of learning disabilities; rather it is related to cocnerns about educational provision for other handicapping conditions such as mental retardation. For learning disabilities, the concept of mainstreaming poses somewhat of a paradox, because the idea of keeping the L.D. child as close as possible to the normal classroom situation has long been functional and is consistent with many of the current remedial practices in L.D. The demands of the parent groups have been more for support services for the L.D. child in the regular classroom, and/or itinerant or resource room provisions, rather than integration since most of the L.D. children are already in the mainstream. Few people would argue with the spirit or the humanistic principle underlying this concept; however, critics have suggested that the philosophical commitment to mainstreaming is not paralleled by demonstrated research support and that it will create many problems. Cruickshank[38] argues that the "least" may often be the most restrictive place for L.D. children to receive their education. While we are all committed to the philosophy of providing the best education for all children, study of the process of integration is clearly needed.

EMERGING TRENDS AND FUTURE DIRECTIONS

The field of learning disabilities is subject to the waves and currents which sweep the larger field of special education in general. As discussed previously, a case in point is the concept of "the least restrictive alternative", together with the concepts of due process, and rights of each individual exceptional child. A shift away from labeling and towards more precise diagnostic practices is evident. The major recommendation in a recent report to the U.S. Department of Health, Education and Welfare, on the effects of classification by Hobbs and his committee,[39] is that there should be a shift in policy from a focus on handicapped or delinquent children per se, and towards an "ecological strategy" which means a mobilization of every available social support tool to help families, schools, and neighbourhoods, etc., to help exceptional children. The focus is on family ecology and on keeping handicapped children in as near-to-normal settings as possible.

Along with this is a shift away from categorizing children, or grouping children categorically by handicap, and towards a non-categorical, or cross-categorical approach in special education, with focus on the individual and his

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[38]W. M. Cruickshank, "Least Restrictive Placement: Administrative Wishful Thinking," *J. Learn. Disabil.* 10, (1977): 5.

[39]N. Hobbs, *The Futures of Children* (San Francisco: Jossey-Bass, 1975).

unique needs. The L.D. position in the cross-categorical movement is rather unique, in that the L.D. child's problem, that of learning, is also experienced by most children in most categories of handicap. Furthermore, the present demand for individualization of instruction for all exceptional children has always been advocated for the L.D. child. Heterogeniety of the L.D. population has been acknowledged, what is now needed is greater recognition which will be reflected in practice. Remediational methods in the past for the L.D. child have focussed primarily on the deficit model, particularly psychological processing deficits. The underlying assumption has been that the problem lies more "within" the child and thus strategies should be directed towards remedying the difficulties within the child. The continuance of the professional debate on the issue of ability training clearly reflects the uncertainty regarding the efficacy of this approach. A present trend is towards assessing and remedying both the environmental variables as well as the "within-child" variables. The concept of clinical teaching is an example of such. It is a way of tailoring learning experience to the unique needs of the individual child. Lerner[40] recommends a clinical teaching model which combines both the modality-processing and skills-sequence approaches to task analysis. Diagnostic-remedial efforts will therefore involve task analysis of the learner, his assets and deficits and learning style, and of the curricula, and matching the curricula to the learner. Furthermore, many would add the environmental, or classroom setting variable, by performing the child-by-task-by-setting analysis.[41] This means structuring the teaching environment to fit the child, in addition to child-by-task analysis. This interactional approach to teaching children with learning disabilities is viewed as one of the most promising and productive approaches in providing a best-fit match between the child and the educational environment.

In summary, the field of learning disabilities is still a young one. While it is beset with many problems it is also full of hope. This essay has reviewed certain important issues and trends. The active debates over these issues should be viewed as a positive step in the consolidation process whereby refinement of ideas and theories and firmer evidence of methodologies and approaches are sought. The future will depend on more and better designed research in order to build and validate a conceptual base which is presently lacking. Finally, progress has been made, exciting developments are happening; considerable challenge lies ahead.

RESUME

L'article explique brièvement le développement historique des recherches dans le domaine de l'inaptitude à l'apprentissage. Il décrit la situation actuelle et expose une série de solutions et de controverses importantes. Il se termine par la description de quelques tendances actuelles et de quelques orientations pour l'avenir.

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[40]Janet W. Lerner, *Children with Learning Disabilities* (2nd ed.; Houghton-Mifflin, 1976).
[41]B. E. McKee, "An Interactional Approach to Learning Disabilities," *J. Learn. Disabil.* 9 (1976): 423-426.