HK J Paediatr (new series) 2005;**10**:140-148

Understanding Learning Disabilities: Knowing the Child Is More Important than Knowing the Law

GE ***DICKMAN***

Abstract Many have come to feel that the very minds that have led the way in developing the concept of learning disabilities (LD) appear to be questioning its continued viability as a scientifically supportable model. This is, in fact, not true. However, the lack of a common rubric for understanding and categorising specific learning disabilities (SLDs) is a weakness in the model that makes it vulnerable. This article: (1) addresses the nature of LD, a consensus as to characteristics recognised within the scientific and advocacy communities; (2) suggests a nosology, a system of classification of SLD; (3) describes Dyslexia, the best understood and most common of all SLD; (4) identifies the link between SLDs and antisocial behaviour, a social and human cost not widely understood or recognised; (5) identifies a common psychological phenomenon that compounds the difficulties faced by the individual with an SLD, an influence that must be understood if the initiative, persistence, and resilience of the SLD child is to be preserved and nurtured.

Key words Cognitive deficits; Cognitive dissonance; Dyslexia; Learning disabilities; Nosology

Advocates are not soldiers, police, or bodyguards. Advocates support, encourage, and promote what they feel is right, fair, and just. An advocate for children with disabilities promotes their interests by informing and educating those upon whom such children depend. The needs of individuals with disabilities are only reluctantly accommodated when the environment on which they depend is forced to comply through the use of intimidation and litigation. How much more effective is a collaboration than a capitulation?

Knowledge concerning the child is the most important tool available to the advocate. Understanding the nature of learning disabilities, being able to describe specific learning deficits, and being able to identify real world behavioural correlates is an essential foundation for meaningful discussions. The ability to identify research-based and clinically proven practices relating to remediating, compensating, and accommodating identified needs, places the focus on developing an appropriate educational response. The goal is to describe the interventions necessary for the individual to experience a *rate of progress*[a] sufficient to obtain a meaningful benefit from the educational opportunities provided. Unfortunately, in many cases, it is necessary to recognise that the resources required to deliver an ideal program of instruction may be limited. Although money is almost universally considered the primary impediment to obtaining an appropriate education for children with disabilities, lack of funds is secondary to the lack of trained and experienced personnel to deliver informed instruction. The admonition that, "you can't get blood from a stone" comes to mind. In such a situation, the advocate turns to problem solving. Are there creative ways to meet the needs of the child, e.g., training opportunities, distance learning, adjusting traditional responsibilities, staff development, assessing the availability of private sector resources? Thinking *out-of-the-box* may be a cliché, but it is essential when resources are limited, which is almost always the case.

The foundation for effective advocacy is a thorough understanding of the nature of that for which one advocates. As an attorney, I can safely say that experience is no match for preparation. In order to foster understanding and assist in preparation I have broken this article into five sections: I) The Nature of Learning Disabilities; II) Learning Disabilities: A Nosology; III)

President Elect, International Dyslexia Association, USA

GE **DICKMAN**

Dyslexia; IV) The Link Between LD and Behaviour; and V) Cognitive Dissonance.

I. The Natures of Learning Disabilities

In 2002 the issue of Learning Disabilities as a scientifically valid concept was addressed by the Commission on Excellence in Special Education created by President George W. Bush on October 2, 2001 (PCESE), the International Dyslexia Association (IDA), and by The Learning Disabilities Roundtable (the Roundtable)[b]. These initiatives were all related. The PCESE white papers triggered the creation of the Roundtable. As a member of the Roundtable, IDA developed position papers on each of the topics for which the Roundtable sought to achieve consensus.

The following discussion appears to be the general consensus of the vast majority of the researchers, practitioners, and advocates participating in all three projects:

1. **The concept of *learning disability* is valid.**

2. **The term learning disability refers to a *class of specific disorders*.**

   The recognition that subgroups of learning disabilities exist identifies the concept of learning disabilities as a taxonomic hierarchy.

3. **Such specific disorders are due to *cognitive deficits*.**

   The aetiology of a learning disability is neurological in nature.

4. **Such cognitive deficits are *intrinsic* to the individual.**

   Although it is accepted that learning disabilities are inherent, the term "intrinsic" is used in place of "congenital", which was previously preferred, because of the currently accepted hypothesis that "environmental factors" (e.g., instruction) must be in place to develop the neural networks that support academic skills. However, there continues to be a lack of general consensus as to whether or not a learning disability can be acquired as the result of an environmental pathogen and/or postnatal trauma.

5. **Such cognitive deficits are *unexpected* in relation to other cognitive abilities.**

   If the cognitive variable identified *predicts* the anomalous development of a particular skill, such predicted development is not unexpected. For instance, problems reading are not unexpected in light of a cognitive deficit in phonological processing. However, the deficient neurocognitive process itself is unexpected considering the existence of other neurocognitive abilities.

   The concept of unexpectedness requires that the role of discrepancy analysis be considered. There is *no diagnostic validity* to a discrepancy analysis that compares aptitude to achievement (e.g., IQ to reading ability), or achievement-to-achievement (e.g., Math ability to reading ability). However, discrepancy may be applied to intra-individual cognitive patterns, as a step in the identification process; which step is understood to be neither necessary nor sufficient to determine the existence of learning disability. Such an analysis merely confirms the existence of an element in the LD phenotype that distinguishes the LD child from other populations experiencing similar cognitive deficits. In other words, within the LD population individuals exhibit a pattern of cognitive deficits in the presence of a preponderance of cognitive assets. This discrepancy has diagnostic salience and is a factor that helps quantify appropriate expectations for intervention and establish goals relating to rate of growth. If individuals are to be grouped for instructional purposes, such information is also necessary to ensure the homogeneity of grouping.

   It is the *assets* not the *deficits* that distinguish individuals with learning disabilities from other populations that share similar cognitive deficits. For instance, the individual who is considered a low achieving slow learner may have a similar cognitive profile in a particular domain to an individual with a learning disability. However, the individual with the learning disability will show a preponderance of assets relative to the deficits involved.

   The only discrepancy model with any relevance is one that is **intra-individual**, compares the extent of discrepancy among **cognitive** deficits and a preponderance of relative **cognitive** assets (clinical judgement may be a significant factor in the case of a profile that is confounded by co-morbidity), and is applicable to **diagnosis**; for instance, a relative deficit in phonological processing as compared to relative strengths, e.g., form recognition, adopting an abstract attitude, shifting set, receptive knowledge of word meaning.

6. Such cognitive deficits predict *performance deficits*.

7. Such *performance deficits* predict consequences in *adaptive functioning*.

The developmental course of an unrecognised and untreated cognitive deficit is the under-development of performance skills that have a pernicious impact on adaptive functioning. A cognitive deficit, no matter how profound, is not a disability unless it results it has an impact on adaptive functioning. To paraphrase Dr. Gordon Sherman, a disability is characterised by an incompatibility between biology and environment. If the skill that is impacted is not needed by the culture and time in which the person exists (a contextual variable), it has no consequence and is not a disability. For instance, an inability to learn efficiently to detect poisonous plants is not a disability in a culture where everyone buys their food from supermarkets. In contrast, the inability to read has significant consequences in most cultures in the year 2004.

8. Such *consequences* are variable across the life span.

Although the cognitive deficit involved is intrinsic to the individual and neurological in nature and, therefore, is life-long, the consequences on adaptive functioning vary over time for a variety of reasons. For instance, the Performance Deficit involved, e.g., word recognition, may be successfully remediated or the Manifest Disability, e.g., reading, is made less consequential due to life choices such as the individual who does not read efficiently choosing to be a farmer instead of a journalist or pursuing a degree in engineering instead of history.

The concept of learning disabilities is widely misunderstood and an ability to describe the concept with the authority of scientific consensus has powerful potential. To educators who do not understand the concept, remediation is a waste of time and accommodations are unfair. It is the "sea of strengths," that Dr. Sally Shaywitz refers to, that is so often overlooked. Unfortunately, there is no learning disability, if it goes unrecognised or unremediated, that does not have the ability to pollute a child's *sea of strengths*.

II. Learning Disabilities: A Nosology

A nosology is a systematic classification of diseases. A taxonomy is a system for classification usually in rank order. The most recognised example of an inclusive, pyramidal taxonomy is the Linnean Hierarchy (Kingdom, Phylum, Class, Order, Family, Genus, and Species). Ten years ago Shaywitz et al encouraged "the development of a unitary, empirically derived nosology...[that] should increase the consistency and generalisability of findings across investigations and across disciplines"[c].

The entire concept of learning disabilities is at risk. The more we learn the more it appears that traditional conceptualisations are inadequate to meet the needs of the scientific community. With the single exception of research into reading, the best minds in the field of learning disabilities appear to have discovered more questions than answers. With no consensus as to definition or a recognised rubric to follow, research on so-called specific learning disabilities has been based, in large part, on personal experience, intuition, and proprietary insight. The term "proprietary insight" is used to identify the difficulty in reaching scientific consensus that occurs when similar or even identical phenotypic observations are slightly adjusted, often a reflection of experience and professional training, supporting ownership and naming rights, e.g., Right Hemisphere Dysfunction, Left Hemi-syndrome, Nonverbal Learning Disability, Hyperlexia. Reality is often influenced by the lens through which it is observed.

This paper suggests a nosology that may help to dissipate the fog of confusion that is currently an impediment to progress in the field.

1. Definition

The term learning disability refers to a class of specific disorders. They are due to cognitive deficits intrinsic to the individual and are often unexpected in relation to cognitive ability. Such disorders result in performance deficiencies in spite of quality instruction and predict deficits in the development of adaptive functioning that have consequences across the life span.

2. Three Categories of Specific Learning Disability

(i) **Unitary Phenotype**: recognises a single cognitive deficit as a cause, e.g., Dyslexia.

(ii) **Complex Phenotype**: a multidimensional construct that recognises a specific pattern of cognitive deficits as a cause, e.g., Nonverbal Learning Disability. An apt analogy may be to the fact that although stars are separate and distinct entities we can categorise them by the company they keep, hence Orion and the Big Dipper. A Complex Phenotype is a constellation of isolated cognitive deficits that appear together with

sufficient regularity to justify a name to identify the pattern. A preferable nomenclature might refer to a *symptom complex*, e.g., Nonverbal Symptom Complex, Executive Function System Complex.

(iii) **Variable Factor Phenotype**: recognises that a similar result could be caused by more than one distinct cognitive deficit, e.g., Dyscalculia.

3. The Fundamental Elements of a Specific Learning Disability

Each Specific Learning Disability has a predictable consequence or pattern of consequences on adaptive functioning. **Each such consequence** may be viewed, from a phenomenological perspective, as having four (4) basic characteristics.

(i) **Focal Weakness** - a main cause that is lacking in expected strength, i.e., a cognitive deficit that is unexpected in relation to cognitive ability.

(ii) **Performance Deficiency** - the ability that is predictably inadequate given the Focal Weakness involved, e.g., a Focal Weakness in phonological processing results in a Performance Deficiency in decoding, word recognition, fluency and spelling.

(iii) **Manifest Disability** - the adaptive behaviour that is compromised by the Performance Deficiency, e.g., a deficiency in decoding ability is significant because it impacts the acquisition of reading skill.

(iv) **Derivative Impact** - the consequence, e.g., in this culture, at this time, reading is a necessary skill in order to gain access to print.

4. Intervention and Phenomenological Perspective

Implications for intervention require a phenomenological perspective. Medical interventions may eventually be able to intervene at the level of the Focal Weakness. In the meantime, educational interventions intervene at the level of the Performance Deficiency based on an understanding of the Focal Weakness involved. By way of example, an educational response to a child diagnosed as having Dyslexia addresses word recognition, decoding, encoding, and fluency. Note that each is addressed in a direct, distinct, and explicit fashion although you would not treat one in isolation because all are necessary if one is to conquer the Manifest Disability, reading, in order to avoid the Derivative Impact that results from not being able to read. On the other hand a Complex Phenotype like the so called Nonverbal Learning Disability may require interventions that respond to seemingly unrelated Performance Deficiencies, e.g., nonverbal social communications, figurative language, gestalt, critical thinking, and the ability to generalise knowledge.

If a Focal Weakness does not *reliably predict* a Performance Deficit, if a Performance Deficiency does not *reliably predict* a Manifest Disability, and if a Manifest Disability does not *reliably predict* a Derivative Impact, no Learning Disability is present. If intervention or remediation successfully ameliorates the Performance Deficiency, thus, diminishing the pernicious effect of the Manifest Disability and Derivative Impact, the Learning Disability continues to exist, in spite of the improvement in adaptive functioning. An apt analogy might be to the circumstance where diet restrictions ameliorate the impact, but do not cure diabetes.

Within the construct of learning disability, Derivative Impact is intended to describe a side effect that is a consequence of the Manifest Disability involved, but cannot be predicted by reference to cognitive or performance deficits alone. The connection between the *Focal Weakness, Performance Deficiency and Manifest Disability* is linear, explicit, and causal; whereas, the consequential relation between the Manifest Disability and the Derivative Impact is incidental. In other words, the comprehension difficulties of a child with Dyslexia may be due to *not reading*, as compared to the inability to read. As a result of the lack of exposure to print, the individual fails to acquire the background knowledge and vocabulary necessary for the efficient comprehension of age appropriate text and literature. A Derivative Impact on comprehension is not directly related to the Focal Weakness involved, but more accurately, to the lack of a sufficiently enriched environment to permit the derivative skill to fully develop. The cognitive prerequisites to comprehension are unimpaired.

It may be helpful to address the study of Learning Disabilities, in all of its manifestations, from an epidemiological perspective. If anomalous adaptive functioning is observed, e.g., limited social competency, oppositional appearing behaviour, the inability to read, it is necessary to analyse antecedent Performance Deficits and Focal Weaknesses before a SLD can be identified. For instance: (1) A child that is having difficulty reading has Dyslexia if the problem is due to an unexpected Focal Weakness involving a cognitive deficit in phonological processing. (2) A child may have a disorder of metacognition (in this case, being able to apply efficiently the knowledge that the child may possess), who reads well and has difficulty with expressive writing due to unexpected

Focal Weaknesses in processing information hierarchically and sequentially. (3) A child that appears oppositional due to Focal Weaknesses involving perspective taking and processing paralinguistic communications may have a SLD where the Derivative Impact is impoverished social communications. A universally accepted understanding of the concept of Learning Disabilities is essential if research and practice are to join forces to address the needs of individuals with Learning Disabilities.

III. Dyslexia

In the United States 80% of children identified as having a learning disability have a difficulty learning how to read commonly known as dyslexia. G. Reid Lyon, Ph.D.[d] has said, "If you don't know the cause you get instructional paradigms built on faulty assumptions". Sometimes the cause for behaviour is counter-intuitive. Dyslexia is an example of a disability the cause for which appears counter-intuitive and is, therefore, often misunderstood. The following is an example that helps explain the counter-intuitive nature of an understanding of the cause of dyslexia.

1. Read the following sentence aloud.

> **FINISHED FILES ARE THE RESULT OF YEARS OF SCIENTIFIC STUDY COMBINED WITH THE EXPERIENCE OF YEARS.**

2. Before going on, go back and count how many Fs appear in the above sentence.

3. The answer to your question as to why I am asking you to do this is in the endnote[e].

Louisa P. Moats has said, "It is not self evident that phonological processing underlies reading disability". Jeanne S. Chall observed that:

> "The reading gaps of the deaf as compared to the blind seem almost a contradiction. Common sense tells us that the deaf would be the better readers because they can see the print. Yet the blind are the better readers. This happens because reading is closer to hearing than to seeing"[f].

Most of the world assumes that dyslexia is a visual problem involving such things as reversals, transpositions, words "dancing" on the page, and the like. Hence, there is a long history in the reading field of worthless "instructional paradigms built on faulty assumptions".

On August 3, 2002, a scientific consensus meeting was held in Washington, D.C.[g] to address the need to update the research definition of Dyslexia adopted by NICHD in 1994. This group came to consensus on the following definition:

> Dyslexia is a specific learning disability that is neurobiological in origin. It is characterised by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge[h].

The various concepts in the definition can be broken down as follows:

1. "Dyslexia is a specific learning disability..."

This definition recognises the existence of other specific learning disabilities.

2. "...that is neurobiological in origin."

The deficit is cognitive, intrinsic to the individual, and occurs at the level of neuronal activity.

3. "It is characterised by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities."

Prior definitions focused on decoding as the Performance Deficit caused by a Focal Weakness in phonological processing. Word recognition, spelling, and fluency problems were seen as flowing from the decoding deficit, i.e., Manifest Disabilities. The new definition recognises fluency, automaticity, spelling and word recognition along with decoding as being directly influenced by the Focal Weakness involved. As a result, this definition has greater relevance to written languages that are more phonologically regular and transparent, e.g., Italian, or that are non-alphabetic, e.g., Chinese.

4. "These difficulties typically result from a deficit in the phonological component of language..."

The scientific consensus is that the core Focal Weakness of dyslexia resides in the phonological system.

5. "...that is often unexpected in relation to other cognitive abilities..."

Consistent with current perspectives on the nature of learning disabilities, the Focal Weakness involved in dyslexia exists in the presence of cognitive assets and is not *expected* as the result of a generalised developmental disability. Also, the factor distinguishing the populations is not the character of the deficit, which may be similar, but the existence of relative cognitive strengths. It is critical to recognise the *relative* nature of the comparison of deficit to assets. In other words, there is nothing in this definition that would preclude an individual with a generalised developmental disability from also being dyslexic if the preponderance of cognitive assets were *relatively* superior to a "deficit in the phonological component of language".

6. "...and the provision of effective classroom instruction."

Individuals who cannot read due to poor instruction (curriculum casualties) are not dyslexic.

7. "Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge."

The primary goal of reading is to comprehend the meaning of text. The dyslexic individual does not, without a comorbid weakness, have a cognitive deficit that directly impacts the ability to comprehend. However, if you cannot decode a word you do not have access to its meaning and if you do not read, the vocabulary and background knowledge necessary for efficient comprehension do not develop. Therefore, comprehension suffers as a downstream, derivative, impact of the failure to read.

Dyslexia in a nutshell:

- Focal weakness = phonological system
- Performance deficiency = word recognition, decoding, fluency, spelling
- Manifest Disability = reading
- Derivative impact = comprehension

Research funded by the National Institute of Child Health and Human Development of the National Institutes of Health indicates that "if youngsters with reading disability are not identified and provided with intervention before reaching nine years of age, at least 74% of them will remain disabled throughout their high school years"[i]. To paraphrase Edward Kameenui, these children face the tyranny of time, because the pedagogical clock for students who are behind in reading and literacy development continues to tick mercilessly, and the opportunities for these students to catch up diminishes over time[j].

"Reading is the key to education, and education is the key to success for both individuals and a democracy"[k]. A difficulty with reading, at this time and in this culture, has an impact that is ubiquitous in all domains of human endeavour. Unfortunately, children that do not easily learn to read often suffer a phenomenon referred to as the "*Matthew Effect*". Dr. Keith Stanovich has coined the phrase "Matthew Effect" to describe the impact that a single unremediated deficit can have on the development of skills that are not deficient. The phrase comes from the Gospel according to Matthew where it is inferred that "the poor get poorer"[l].

> Whereas IQ and general cognitive skills seem not to have much bearing on early reading achievement, early reading failures seem to result in a progressive diminution in IQ scores and general cognitive skill.

Reading instruction for individuals who experience difficulty learning how to read using traditional methods of instruction must be *informed* (research-based and/or clinically proven) on three levels:

(i) *Informed* method of instruction.
(ii) *Informed* instructor that is properly trained and experienced to deliver instruction with fidelity to its design.
(ii) *Informed* environment that is sufficiently homogeneous, intensive, and free from distractions to permit a meaningful rate of progress.

The best way to evaluate the success of a particular remedial effort is not by determining if progress is being made, but by measuring the rate of the progress being made and how quickly the gap is closing between subject and peers at the level of Manifest Disability. The goal should be to *catch up* as quickly as possible to avoid the

compounding impact of Matthew Effect and other consequences not directly related to the cognitive deficit involved.

IV. The Link Between Learning Disabilities and Behaviour[m]

It is now widely recognised that Learning Disabilities are not just an educational problem faced by a small number of afflicted individuals, but an occurrence of sufficient magnitude to pose a social and public health problem[n]. Specific Learning Disabilities vary significantly in the severity of risk or predisposition for the development of antisocial behaviour and such risk is enhanced in the presence of comorbidity and environmental factors such as school failure, low socioeconomic status, and adopted child status.

"Yes", "no", "maybe" – these are the answers to be found in the research seeking to establish the existence of a link between LD and behaviour. There are studies that support a strong correlation, others that support a modest correlation, and still others that indicate that there is no correlation. Other studies indicate that people react differently to a child with LD than they do to a child without LD. Such studies indicate that individuals with LD receive differential treatment because of their inability to communicate effectively and are, therefore, more likely to be taken into custody by police to be found delinquent by a juvenile court, or to receive more severe penalties.

The inconsistency observed in studies addressing the link between LD and delinquent behaviour is of heuristic value in that it supports the existence of subtypes of LD, each of which has a different risk factor for delinquent behaviour. In other words, if the inconsistent results are due to differences between the studies related to the characteristics of the LD cohorts being researched, the conclusion is not that the studies are invalid, but that the characteristics of the particular cohorts being researched are a significant determinant in evaluating the link between LD and delinquent behaviour.

A meta-analysis of such studies provides robust support for the following conclusions:

(i) Each subtype of Learning Disability poses a unique and variable risk of predisposing a child to anomalous development of prosocial behaviour.

(ii) Comorbidity enhances the risk of evidencing anomalous development of prosocial behaviour.

(iii) Environmental factors such as school failure, low socioeconomic status, and adopted child status also enhance the risk of evidencing anomalous development of prosocial behaviour.

Logically, those Learning Disabilities that involve Focal Weaknesses and Performance Deficiencies related to processing pragmatic and paralinguistic information, perspective taking, and critical thinking predict Manifest Disabilities in the area of interpersonal skills and Derivative Impacts involving social isolation, diminished self esteem, anxiety and depression. Such individuals are more likely than their peers to withdraw or act out. Whereas, the majority of individuals with a learning disability involving a Focal Weakness in phonological processing are not at significant risk for developing a Derivative Impact in the area of interpersonal skill development. It appears that, insofar as the risk of developing antisocial behaviour is concerned, *reading people* is more important than *reading words*. In fact research conducted by Byron Rourke on 750 children with a Learning Disability in 1993 concluded that "the better the reading the more serious the psychopathology"[o].

Unfortunately, the Derivative Impact of Learning Disabilities is a potentially endless chain of incidental cause and effect that has a human, social, and political cost. It does not take a great deal of imagination to extrapolate a continuum of negative effect (e.g., under-achievement due to low self esteem due to academic failure due to difficulty comprehending and so on). There is one such element in this continuum that appears, in my experience, to be so pervasive as to be worthy of special attention. A child with a Learning Disability lives in a world filled with irresolvable dissonance.

V. Cognitive Dissonance

When expectations exceed performance, the individual experiences relative under-achievement and failure. This feeling of failure is often pervasive in such a child's environment – academically and socially. The hallmark of a Learning Disability is unexpectedness. It is such an individual's "sea of strengths" that creates the high expectations that, in turn, cause the relative weakness in a particular skill area to be "unexpected". Unexpected under-achievement is one way to define failure.

Over time the disparity between expectations and

relatively lower performance, both socially and academically, leads to psychological pain. This predictable occurrence can be understood in the context of cognitive dissonance theory. Cognitive dissonance can be simply defined as "an uncomfortable psychological state in which the individual experiences two incompatible beliefs or cognitions"[p]. It is not unusual for children with a cognitive profile and learning difficulties that support unreasonable expectations to experience significantly incompatible perspectives concerning their skills and abilities (self-efficacy). Childhood attributions and expectations that support an image of competency are increasingly challenged by a growing awareness of a lack of competence. Such inconsistent performance results in a *cognitive dissonance* that causes psychological discomfort. Cognitive dissonance theory holds that the individual is then "motivated by the attendant discomfort to act in such a manner as to reduce dissonance"[q]. Eventually, in order to resolve such discomfort, the child will often add a behavioural variable (e.g., refusing to go to school, complete work) to explain failure without challenging an underlying belief in self-efficacy. It can be said that such a child would rather appear *unwilling* than *unable* (Lorinstein)[r] or in some cases would rather appear bad than *stupid* (Rebeta)[s].

Continued efforts to resolve dissonance through the introduction of variables to rationalise performance inconsistent with expectations eventually results in an externalisation of locus of control. An external locus of control exists when an individual feels that things happen due to forces, internal or external, that are beyond his control. They become fatalistic, they see themselves as being carried on a wave from day to day on a ship with no rudder or sails to change direction or influence the inevitable. Eventually, the relationship between their actions and related consequences becomes blurred. The blurring of cause and effect relationships involving self-efficacy (a belief in one's ability to influence their circumstances) also results in the apparent refusal to accept responsibility for the negative consequences of behaviour and compromises the effectiveness of interventions based on conditioning, such as traditional behaviour modification programs. This erosion of self-efficacy helps to explain apparently inconsistent behaviours, e.g., acting out, explosive, and exaggerated behaviours (attempts to have influence) juxtaposed with sadness, depression, pessimism, and withdrawal (resignation). Without appropriately informed instruction, a child with a learning disability is likely to become increasingly frustrated with school and avoidant of challenging assignments that threaten self-esteem and self worth.

Conclusion

Being able to conceptualise Learning Disabilities in a way that allows one to rationalise conclusions in a logical and organised fashion gives the advocate the ability to move a discussion forward based on needs of the child. All too often discussions break down on issues related to the fears of the parent and the egos of the professionals. We are all advocates. In 1989 I was privileged to represent the child in a case where the seven judges of the New Jersey Supreme Court held that:

> "...both the parents and the district have an interest in assuring that a handicapped child receives an appropriate education. In that setting, the adversary nature of the proceedings should yield to obtaining the right result for the handicapped child"[t].

Parents and their advocates cannot prevail by simply exposing their fears and professional educators cannot prevail by simply reciting their credentials. The goals of the advocate, both parent and school, is to inform and educate in order that all of the forces that influence the child are aligned in a collaborative effort.

Knowing the child is more important than knowing the law!

Further Reading

a. The focus on rate of progress, versus progress in general, is meaningful since progress is almost always experienced while rate of progress is quantifiable for the purpose of determining whether the child is closing the gap.
b. The Learning Disabilities Roundtable consisted of ten organisations sponsored by the Division of Research to Practice Office of Special Education Programs of the U.S. Department of Education. The report of the Roundtable entitled Specific Learning Disabilities: Finding Common Ground was published July 25, 2002. I was privileged to have prepared the initial draft that resulted in the IDA position paper on The Nature of Learning Disabilities and to have been a representative from IDA to the Learning Disabilities Roundtable.

c. Shaywitz SE, Fletcher JM, Shaywitz BA. Issues in the definition and classification of attention deficit disorder. Topics in Language Disorders 1994; 14(4), 1-25, on p.22.
d. Head of the branch of the National Institutes of Child Health and Human Development responsible for researching learning disabilities.
e. There are 6 F's. All written languages are a code for spoken language. In an alphabetic language letters and letter combinations represent phonemes, the smallest unit of sound in the spoken language being encoded. Good readers automatically make symbol to sound and sound to symbol correspondence. In this case, the instruction to count F's was automatically interpreted by the brain to mean the unvoiced/f/sound that most often corresponds to the f symbol and it overlooked the voiced/v/sound in the word "of". This is one test that good readers most often fail and non-readers always get correct.
f. Chall JS. Stages of reading development 2nd ed. NY: Harcourt Brace & Company 1996: p. 128.
g. Susan Brady, Hugh Catts, Emerson Dickman, Guinevere Eden, Jack Fletcher, Jeffrey Gilger, G. Reid Lyon, Bennett Shaywitz, Sally Shaywitz, and Harley Tomey.
h. See also Lyon GR, Shaywitz SE, Shaywitz A. A definition of dyslexia, Annals of Dyslexia 2003;53:1-14.
i. Lyon R, Chhabra V. The current state of science and the future of specific reading disability. Mental Retardation and Developmental Disabilities Research Reviews 1996;1:1-8.
j. Edward Kameenui, Professor and Associate Director of the National Center to Improve the Tools of Education at the College of Education, University of Oregon.
k. Adams MJ. Beginning to read: Thinking and learning about print. Cambridge, MA: MIT Press 1990: p. 13.
l. Adams MJ. Beginning to read: Thinking and learning about print. Cambridge, MA: MIT Press 1990: p. 59.
m. Dickman GE, The link between learning disabilities and behaviour. In: Cramer SC, Ellis W., eds. Learning disabilities: Lifelong issues. Baltimore: Paul H. Brooks 1996; 215-228.
n. Testimony before the House Committee on Education and the Work Force by Robert Pasternack, Assistant Secretary for Special Education and Rehabilitative Service U.S. Dept. of Education, June 6, 2002.
o. Rourke BP. Syndrome of nonverbal learning disabilities: Developmental manifestations in neurological disease, disorder and dysfunction. Paper presented at the 44th annual conference of the Orton Dyslexia Society, New Orleans, L.A, 1993.
p. Chaplin JP, Dictionary of psychology, 2nd ed. New York: Dell Publishing 1985, on p. 85.
q. Id. At p. 85
r. Lorinstein, B., personal correspondence.
s. Rebeta, J., personal correspondence.
t. Lascari V. Board of Educ., 116 N.J. 30, 46 (1989).