Chapter 7
Nonverbal Learning Disorder:
Past, Present, and Future

Joseph E. Casey
University of Windsor, Canada

ABSTRACT

Since the first description of nonverbal learning disorder (NLD) was published in 1967, much research has been conducted elucidating its key features, its neuroanatomical associations, and the assessment procedures essential to establishing a diagnosis and treatment plan. Although there is theoretical and empirical evidence supporting the validity of NLD, awareness of this disorder is lacking, arguably in large part due to its absence in any formal classification system. This chapter reviews the scientific literature that has given rise to our current conceptualization of NLD. Clinical practice considerations are discussed as related to its assessment, diagnosis, treatment, and prognosis. These considerations are illustrated by a case study. The chapter continues with a discussion of issues in need of further research and the benefits of considering NLD in the context of the World Health Organization's classification system for describing health and health-related conditions. The chapter ends with a proposed definition of NLD.

INTRODUCTION

An "enigma." That was the word used by her mother to describe Natalie. Prior to her first neuropsychological assessment, her parents had not been given a definite diagnosis or satisfactory guidance on how to best help her. During Natalie's preschool and primary school years, she was given several diagnoses, including mild cerebral palsy, sensory integration dysfunction, and receptive language disorder. Another clinician advised that most times there is no answer. At 10 years of age, the gap between Natalie and her peers was noticeably widening, socially and academically. She still had difficulty finding her way around the small one-level school she had attended since kindergarten. At the time of her referral for a neuropsychological evaluation, the primary concerns revolved around her social functioning, her adaptive skills, her visual-spatial abilities, and her academic achievement.

Delays in Natalie's development, however, were noted early on and resulted in her receiving several assessments and interventions that date back prior to the age of 2 years. Interventions prior to her neu-

ropsychological assessment included occupational therapy, speech-language therapy, physical therapy, and special education. Psychoeducational assessments completed when she was 7 and 9 years of age indicated better verbal than nonverbal skills and abilities. Academic achievement testing at 9 years of age indicated average range scores on tests of word recognition, reading comprehension, written spelling, and listening comprehension, as well as a considerable weakness in her computation skills (less than the 1st percentile). Her first neuropsychological assessment at 10 years of age led to the diagnosis of nonverbal learning disorder (NLD).

Natalie's history and assessment results, described below, are consistent with the features described often in the literature, especially in regard to children who present with the developmental or idiopathic form of NLD, which will be the focus of the present chapter. Natalie's case illustrates several important points relevant to the assessment, diagnosis, and treatment of NLD. Prior to describing Natalie's case in more detail, however, a selective review of the foundational knowledge leading to our current conceptualization of NLD is presented that will form the basis for understanding her clinical presentation. This is followed by a description of the sources of information needed to make a diagnosis of NLD, as well as a description of the typical early developmental history and the key clinical features of NLD as summarized from the literature. Following a presentation of Natalie's case is a discussion of the current issues related to the conceptualization, assessment, diagnosis, and treatment of NLD. The chapter ends with a proposed description and definition of NLD.

HISTORICAL FOUNDATIONS

Theoretical Foundation

Relevant to our current understanding of NLD are several theories and an empirical base that now span nearly 50 years. Indeed, the seminal work leading to our current conception of NLD emerged prior to the diagnostic introduction of the attention-deficit/hyperactivity disorder (ADHD) predecessor, hyperkinetic reaction of childhood, with the release of the *Diagnostic and Statistical Manual of Mental Disorders, Second Edition* (*DSM-II*; American Psychiatric Association, 1968). In the first description and theoretical explanation of NLD, Johnson and Myklebust (1967) proposed a "psychoneurological" basis for understanding learning disabilities. In their book, *Learning Disabilities: Educational Principles and Practices*, they articulated the view that brain dysfunction was at the root of learning disabilities, affecting how children learn. Important to their psychoneurological orientation was that psychologically, the "processes of learning [could] be viewed as hierarchies of experience" (p. 32).

At the lowest level of behavior is *sensation*. Sensory disorders, such as deafness and blindness, are examples of deficits at this level that can affect learning. The next level is *perception*, which enables one to bring meaning to sensory experiences. Being unable to perceive auditorily the difference between the phonemes *b* and *d* is an example of an impairment at this level. *Imagery* constitutes the next level in their hierarchy, an important cognitive process for distinguishing perception and memory. "A predominant difference is that perception concerns awareness relative to *ongoing* sensation whereas imagery pertains to sensations or information *already* received and perceived" (Johnson & Myklebust, 1967, p. 33). Johnson and Myklebust concerned themselves primarily with the modalities of auditorizing and visualizing, essentially verbal and visual memory, because impairments in these processes were thought to be especially significant in learning disabilities. Moving up to the next level in the hierarchy is *symboliza-*

Related Content

Analysis of 3D Corpus Callosum Images in the Brains of Autistic Individuals
Ahmed Elnakib, Manuel F. Casanova, Ahmed Soliman, Georgy Gimel'farband Ayman El-Baz (2016).
Special and Gifted Education: Concepts, Methodologies, Tools, and Applications (pp. 1529-1554).
www.irma-international.org/chapter/analysis-of-3d-corpus-callosum-images-in-the-brains-of-autistic-individuals/151267

Quantitative Analysis of Online Teaching and Learning Techniques and the 2019 English
Language Proficiency Assessment Levels in a Tri-State Region
Theresa A. Paterra (2023). *International Journal of Curriculum Development and Learning Measurement
(pp. 1-15).*
www.irma-international.org/article/quantitative-analysis-of-online-teaching-and-learning-techniques-and--the-2019-english-language-proficiency-assessment-levels-in-a-tri-state-region/320655

Adult Education and Empathy: The Impact of Empathy Development on Students' Academic
Competencies and Classroom Engagement Post Covid-19
Hany Zaky (2024). *International Journal of Curriculum Development and Learning Measurement (pp. 1-18).*
www.irma-international.org/article/adult-education-and-empathy/339913

Effectiveness of International Distance Education in High School between Thailand and Japan
Natcha Pavasajjanant (2014). *K-12 Education: Concepts, Methodologies, Tools, and Applications (pp.
336-349).*
www.irma-international.org/chapter/effectiveness-of-international-distance-education-in-high-school-between-thailand-and-japan/88157

The Effects of Technology Integration in the Classroom for Students With ADHD
Aleen Kojayan, Aubrey L. C. Stattiand Kelly M. Torres (2021). *International Journal of Curriculum
Development and Learning Measurement (pp. 1-10).*
www.irma-international.org/article/the-effects-of-technology-integration-in-the-classroom-for-students-with-adhd/269744