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Non-Verbal Learning Disabilities: An Emerging Profile

by Caryl Frankenberger, Ed.M.

A body of literature on non-verbal learning disabilities (NVLD) has emerged within the past ten years. In an attempt to clearly define this "syndrome", Rourke (1985, 1989), among others, has spent years researching, describing, and differentiating this subgroup of learning disabilities from others that are more commonly known and better understood. He describes the NVLD syndrome as a cluster of neuropsychological, academic, and social-emotional characteristics that reflects primary deficiencies in non-verbal reasoning. These deficiencies include but are not limited to weak visual-spatial and visual discrimination abilities, poorly developed organizational skills, difficulty making inferences and reasoning abstractly, significant problems with mathematical reasoning, and limited social competence.

The term NVLD should not be interpreted literally. Students having non-verbal learning problems may encounter difficulty with language-based tasks. Communicating through language requires such skills as organization, comprehension, use of prosody, and flexible thinking, and it is these aspects as they apply to language that may be problematic for these students.

While a number of weaknesses have been documented in an attempt to clarify the NVLD profile, so too have a number of strengths, many of which are apparent during a child's first few years in school. Rourke (1985, 1989) suggests that, early in their school careers, these children excel in rote verbal learning such as that required for reading and spelling. Mastering the phonetic code is quickly accomplished and automaticity is attained within a short period of time. Short-term memory abilities are usually well developed and the NVLD child often encounters success learning content material that requires memorization.

These children decode text with relative fluency. However, they often struggle with those aspects of reading that require organization and higher level reasoning. Difficulty placing events in order, understanding cause-and-effect relationships, and failing to comprehend the subtleties and nuances of the language result in a concrete interpretation of text. In addition, NVLD students often lack flexibility. They approach tasks rigidly and do not readily use learned information to facilitate the acquisition of new material. This, coupled with lesser developed concept formation abilities and poor problem-solving skills, leads to their having difficulty transferring learned information to new situations. Because these skills are necessary for comprehending more sophisticated text, NVLD students often encounter the greatest difficulty as they enter high school where they must organize and assimilate greater amounts of new material.

Similar kinds of reasoning and organizational skills are necessary for the successful completion of math and science courses. NVLD students often have problems with directionality, aligning numbers, carrying tasks through to completion, attending to visual details such as mathematical signs, and understanding spatial concepts. Furthermore, fine motor skills are not always highly developed and, consequently, manipulating a pencil, forming numbers, and writing all can interfere with the successful completion of assignments.

Because these students frequently experience success in courses requiring memorization of material, they tend to master math facts quickly and are adept at memorizing theorems for geometry. Working with angles and following lengthy calculations through to completion can be difficult, however. While certain facets of science can be learned through rote memory, the NVLD child frequently encounters difficulty with more sophisticated non-verbal reasoning requirements.

One of the hallmark characteristics of NVLD students is the difficulty they have learning from their visual environment. It is quite common to find that a large discrepancy exists between Verbal and Performance IQ scores on the WISC-III. Low Performance IQ scores reflect, among other things, difficulty with the analysis and synthesis of visual information regardless of whether it is concrete or abstract. NVLD children do not readily attend to visual details and frequently misinterpret those on which they do focus.

Difficulty identifying and comprehending various types of visual information not only impacts a student's performance but has significant ramifications on the development of positive peer relationships. NVLD children have particular difficulty in this area, as they struggle to comprehend social cues and the nuances of social interactions. Difficulty noting and understanding facial expressions, body language, and emotions can place these children at risk for establishing meaningful and productive friendships. In addition, they do not always understand cause-and-effect relationships or anticipate the consequences of their actions, all of which create problems as they try to adjust to rapidly changing social demands.

In order to compensate for these difficulties, NVLD children characteristically establish a pattern of routinized social skills. For example, they may feel uncomfortable entering a group and might compensate by using a standard introductory comment. This is the child's way of breaking into a conversation, and it might be followed by a stream of verbiage which has little to do with the topic at hand. These children may have difficulty monitoring their language, which often results in speaking excessively, interrupting conversations, and talking out of turn. They are frequently perceived as being socially inappropriate because of these behaviors.

As with any population, not all NVLD children display all of the behaviors just described. Similarly, the degree to which these areas of difficulty impact a child's performance is extremely varied. The majority of these children respond positively to structure, clear expectations, and consistency at home and at school. In a supportive, highly structured environment, NVLD children can learn strategies to compensate for their learning problems. The following are suggestions for creating an effective learning environment.

- 1) Break tasks down into manageable parts and provide explicit step-by-step directions. This is especially important when new information is being introduced as well as when reading comprehension and math tasks are presented.

2) Teach "verbal feedback" strategies. NVLD children tend to be highly verbal; asking them to repeat directions or salient information will reinforce concepts presented, provide structure, and help ensure that all steps of a task are understood.

3) Provide outlines that are clear and not visually overwhelming. Written outlines facilitate organization and alleviate the frustration of copying from the board or taking copious notes. As students become accustomed to working with outlines, they should gradually be held accountable for writing their own. This is especially important for high school students who need to move toward independent notetaking.

4) Provide direct instruction in social skills. Teach students how to recognize and understand facial expressions, body language, and emotions. Social competence can be taught through role playing, but can best be addressed through a curriculum designed to teach social cognition. Provide students with opportunities to interact with younger children in order to encourage leadership roles and instill a sense of responsibility.

5) NVLD children have difficulty anticipating or understanding the consequences of their actions and are often punished without having a clear understanding of the reason. Avoid punitive measures and replace them with constructive criticism and clear, consistent expectations.

In an appropriate educational and social environment, NVLD children should have numerous opportunities to make progress. Although this progress may be slow initially, with time and effective strategies these children can establish positive and meaningful relationships and achieve greater success in school.

Rourke, B.P. *Non-Verbal Learning Disabilities: The Syndrome and the Model*, New York: Guilford Press, 1989.

– *Neuropsychology of Learning Disabilities*, New York: Guilford Press, 1985.

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