

The Neurolinguistic Approach to Assessment and Treatment of Dyslexia for Speech-Language Pathologists

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What is dyslexia?

The definition of dyslexia is, simply, unexpected difficulty learning to read given other abilities. Speech-language pathologists routinely see children with this condition.

Learning to read begins with sounds, just as it did when, as infants, children learned to talk. The difference now is that they are held accountable for greater precision in phonologic perception, which brings new challenges. They have trouble distinguishing the acoustic variations for each of the 40+ phonemes; remembering each of the sounds they hear; segmenting the sounds they hear; sequencing the sounds they hear; blending the sounds they hear; recognizing blended sounds as words; and using auditory recognition, instead, substituting visual recall. In general, they have difficulty identifying and manipulating auditory elements in phoneme strings.

The sound perception skills never mattered in preschool years, or they were manifested in different ways that seemed to have nothing to do with reading and writing. Children with dyslexia who had shown great confidence as preschoolers, for the first time, face great pressure, humiliation, and failure as they take on the didactics of academic reading instruction.

Ever since the National Reading Panel's report to Congress (<http://www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf>, 2000) that emphasized the importance of phonologic awareness in reading acquisition and remediation, many studies have verified the essential role phonology plays in written language (Schuele & Boudreau, 2008). Most teacher preparation texts discuss the role of phonology and describe strategies such as rhyming and letter/sound phonics rules as found in Orton-Gillingham-based programs (Johns Hopkins University).

As widely used as phonics programs are, they have not demonstrated expected benefit (Ritchey & Goeke, 2006). The problem with phonics is that it does not begin with the auditory roots of phonology and introduces the invented visual letter system of spelling far too early. Many, if not most, children piece together the confusing auditory and visual information they receive and go on to read adequately. But approximately 30% do not (Patton & Holmes, 1998) and can suffer dire consequences. Some of those weak readers have stronger visual memory and lean inordinately on visual skills, but they will need auditory analysis as their reading vocabulary exceeds their visual memory capacity for letter patterns, around second or third grade (McGuinness & McGuinness, 1998).

Who can diagnose and treat dyslexia?

SLPs are uniquely qualified to diagnose and treat dyslexia. Language is a designated area of expertise for speech-language pathologists. SLPs have been addressing the phonology rule system in articulation treatment since the beginning of this profession, distinguishing phonologic issues from others that affect articulation. The position statement, guidelines, and technical report in *Roles and Responsibilities of Speech-Language Pathologists with Respect to Reading and Writing in Children and Adolescents* (ASHA, 2001) delineates the range of issues SLPs address.

However, many SLPs do not diagnose and treat dyslexia for different reasons that include caseloads that are already too large, administrators who allow SLPs to address only oral language disorders, others who exclude SLPs from the process, and SLPs' not being confident in their skills to diagnose and treat dyslexia. Four of these reasons may not allow change, but the last one does. SLPs **do** have the skills to diagnose and treat dyslexia. That is not to say that diagnosis and treatment of any disorder does not require a solid knowledge and experience base; however, if they hold SLP certification/licensure, that base is more solid than SLPs may realize.

What is the goal of this presentation?

The goal of this presentation is to encourage SLPs to become more involved in helping individuals with dyslexia, using a neurodevelopmental approach, and to remind SLPs of their investigative expertise and unique knowledge of the phonology rule system.

Where should intervention begin?

A comprehensive assessment of oral and written language parameters will delineate dyslexia, including evaluation of oral peripheral structure and function for articulation, resonance, and phonation; hearing sensitivity; application of receptive and expressive phonologic, semantic, syntactic, pragmatic, and prosody rule systems; oral and written language samples; memory; auditory processing; and attention.

What is a Neurodevelopmental Approach to Reading?

All children should learn to spell and read using a neurodevelopmental approach that targets phonologic perception, but children with dyslexia particularly need this approach. The approach addresses the coding aspect of reading that children with dyslexia cannot manage. Once the coding blockage is released, comprehension usually proceeds without undue difficulty. If comprehension remains a problem, the SLP is highly experienced in use of traditional semantic and syntactic strategies to enable understanding of meaning and form. The remedial approach has the following four stages:

STAGE 1 presents systematic alphabet learning as children name letters, point to named letters, and write named letters. This may seem a strange first step when the remediation program will not use letters until the very last stage, but mastery is set aside for use at Stage 4.

STAGE 2 contrasts articulation functions of manner, voice, and place with the acoustic counterparts that distinguish phonemes. The SLP targets the client's particular phonologic misperceptions, including problematic speech patterns that may or may not have resolved. If the client is already reading and writing, errors will also reveal phonologic perceptual confusions.

STAGE 3 addresses coding phoneme strings with small, different-colored objects. Many programs, most notably *LiPS* (Lindamood & Lindamood, 1998), use this technique. However, the range of issues in this approach are more extensive and exclude letter references.

STAGE 4, for the first time, the child integrates the auditory phonemes with visual graphemes. This is the most challenging stage because Standard American English is only partially phonetic, and its invented spelling patterns are highly problematic for even good spellers (Simplified Spelling Society, <http://spellingsociety.org/>). Nonetheless, the reader/

Does dyslexia preclude successful written communication skills?

speller must deal with the reality of spelling. At this stage, the clinician provides word lists that target each of the 40+ phonemes in the language. Each list provides spelling options for vocabulary that is at the client's age/grade/ability level. The SLP and client analyze the patterns and use many association strategies for recalling groups of words that use the same spelling pattern. A series of steps uses spelling competency to increase reading competency.

Dyslexia is a challenging condition to manage. Most children with this condition hobble through school and struggle with the IEP process, reflected in the Dr. Seuss IEP poem (Advocate for Special Education, <http://www.advocate4specialed.com/ieps-a-poem-by-dr-seuss/>). Once phonologic perception and coding are mastered, many children with dyslexia go on to be journalists, authors, attorneys, and other professionals whose work depends on reading/writing skills. In fact, some journalists such as Pulitzer Prize winner, Garth Cook, cite dyslexia as the reason they became writers (<http://blog.dyslexicadvantage.org/2015/09/16/dyslexia-and-pulitzer-prize-winning-journalist-gareth-cook/>).

The above-described neurolinguistic approach to reading (Kamara, 2015) has been used for over a decade by many speech-language pathologists in private practice and school settings. Standardized tests; clinical judgement; and teacher, parent, and client satisfaction confirm that the approach works.



References

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