

Phonological Awareness in Children with Dyslexia

Identifying, Treating, and Educating Caregivers

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Testing your knowledge

Does dyslexia involve:

- ❖ Visual deficits
- ❖ Limited vocabulary
- ❖ Semantic deficits
- ❖ Cognitive deficits

What is Dyslexia?

❖ Dyslexia is:

- Specific reading disorder
- Neurobiological in origin
- Difficulties with precise and/or fluent word recognition
- Normal intelligence

❖ Prevalence:

- The International Dyslexia Association (IDA) estimates that **15-20%** of the general population experiences one or more symptoms of dyslexia.

"Learning to read is largely responsible for the development of 'phoneme awareness'. The development of phoneme awareness depends partly on the consistency with which letters symbolise phonemes in a language, and partly on the complexity of phonological syllable structure..."

Consequences of Dyslexia: Primary

- ❖ Poor spelling and decoding abilities resulting from a deficit in the phonological component of language.
- ❖ Difficulty with rapid visual-verbal responding.
- ❖ Difficulty with phonological awareness tasks leads to a weak foundation for learning an alphabetic writing system.

Consequences of Dyslexia: Secondary

- ❖ Poor word recognition skills leads to reading slowly and/or inaccurately, which can result in poor comprehension.
- ❖ As children move beyond early grade levels, difficulty learning to read becomes difficulty reading to learn (vocabulary, background knowledge, etc.).
- ❖ Possible social, emotional, and behavioral difficulties.

Phonological Deficit Hypothesis

- Widely-accepted model that the underlying cause of dyslexia is in phonological processing such as in the skills of phonological awareness, pseudoword decoding, word retrieval, and phonological memory
 - phonological processing: the ability to perceive, store, retrieve, and manipulate sounds for language
 - **phonological awareness**: ability to determine the constituent sounds which comprise spoken words, i.e. detecting rhyme and initial/final sounds & separating words into sounds and syllables
- The Phonological Deficit Hypothesis posits that poor phonological processing leads to difficulty in learning grapheme-phoneme correspondences early on and to later difficulty in decoding, reading, and spelling.

Further Research

- Within the Phonological Deficit Hypothesis, there is debate as whether the locus of the deficit is in the sub-lexical or the lexical phonological level, or in the orthographic-phonological connection.
- Recent theories suggest that poor auditory processing (the ability to perceive, analyze, and synthesize patterns among auditory stimuli) cause the phonological issues characteristic to dyslexia
 - difficulty in detection of amplitude modulation
 - stress, rhythm and intonation in speech is determined by amplitude rise time
 - deficits in stress detection may underlie the development of poor phonological awareness
- As always, continued research is important for understanding dyslexia and developing techniques for its intervention.

Phonological Awareness Training in Dyslexia

- Phonological Awareness vs. Phonics
 - Phonics deals with the relationship between sounds and the letters that represent those sounds.
 - Phonological awareness deals with the sounds in the words, not the letters. Phonological awareness training includes:
 - identification of rhymes
 - identification of phonemes
 - segmentation of words into syllables
 - onset-rhymes and phonemes
 - syllable blending
 - onset-rhymes and phonemes into words
 - manipulation of syllables, onset-rhymes and phonemes

Hierarchy of Systematic Instruction

- ❖ Therapy should build on itself in order of phonological complexity
 - First Level: *Rhyming* - hearing, discriminating, producing
 - Second Level: *Isolating and Categorizing Sounds*
 - Third Level: *Segmenting and Blending Syllables in Sounds*
 - Fourth Level: *Manipulating Phonemes*

Therapeutic Techniques

- ❖ To best treat this population, instruction should be:
 - **Systematic** - Presented in specific growing order
 - **Direct** - One on one
 - **Explicit** - Letter-sound correspondence
 - **Intensive** - Frequent is best

Evidence Based Treatments

- ❖ LiPS - Linda Phoneme Sequence Training
 - Encourages phonemic awareness by helping users understand how mouth movements correspond to spoken sounds.
- ❖ Wilson Reading System
 - Teaches fundamentals of vocabulary and language by giving its users the tools to understand the English language coding system.
- ❖ Orton-Gillingham Method
 - Multi-sensory approach

What does Dyslexia have to do with SLPs?

SLP Knowledge Base:

Nature of Literacy
 Normal Development
 Disorders of Language and Development
 Clinical Tools and Methods

Collaboration, Leadership, and Research Principles

ASHA Position Statement:

Prevention
 Identification
 Assessment
 Intervention
 Other roles

The Role of an SLP: Prevention

Foster Language Acquisition and Emergent Literacy

- Predict
 - Who may need extra instruction?
- Communicate
 - With teachers and caregivers
- Collaborate
 - Encourage rich literacy environments
- Maintain longitudinal vigilance
 - Track students for decreases in literacy skills

The Role of an SLP: Identification

Early Identification of children who are at risk for reading and writing problems

Recognize written and spoken language difficulties in children with:

- disorders of spoken language
- disabilities
- sociolinguistic differences

Communicate with teachers about:

- Spoken and Written Language successes and difficulties
- Screening/Referrals

Track literacy progress throughout academic progression

- Re-emerging literacy difficulties

The Role of an SLP: Assessment

Assessing reading and writing

Informal Assessments (4-5 years old)

Rhyming skills
 Count syllables in words

Formal Assessments

The Phonological Awareness Test-Second Edition (TPAT-2; Robertson, & Salter, [2007])
 Woodcock-Johnson III (WJ III; Woodcock McGrew, & Mather, [2002])

- Select assessment based on:
 - child's current curriculum
 - concerns of teacher/parent
 - cultural appropriateness
 - child's unique profile

The Role of an SLP: Intervention

Providing intervention and documenting outcomes for reading and writing

Intervention should include:

- current research
- current curricular activities appropriate for child's development level
- strategies
- individual flexibility

Document progress and outcomes of intervention

The Role of an SLP: Other Roles

Assuming other roles, advocating for effective literacy practices, and advancing knowledge base.

Advocate for effective literacy practices

Assist and Collaborate with teachers and other team members

Advance the knowledge base through:

- research
- consultation
- continuing education
- policy development

Recent studies indicate:

- only **29%** of teachers defined phonemic awareness correctly.
- teachers confident in phonological awareness teaching abilities scored lowest on a phoneme counting test
- **two-thirds** of teachers scored **below 61%** on phonological knowledge test

Take Away Points

❖ To Summarize:

- Dyslexia is a specific reading disorder, of neurobiological origin, distinguished by difficulties that are due to a deficit in the phonological component of language in the presence of a normal IQ.
- Because the cause of dyslexia is primarily believed to be a deficit in the skills of phonological processing, phonological awareness training can be implemented as an effective component in dyslexia intervention.
- Therapy for this population should be Direct, Explicit, Intensive, and Systematic building on a hierarchy of phonological awareness tasks.

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