Dyslexia 101
Understanding the Basics

February 21 & 22, 2020
SWIDA Annual Conference
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Presentation Topics
- Common misconceptions
- Dyslexia defined
- Early identification
- Simulation task
- Accommodations & technology
- Structured Literacy key features

- Dyslexia is real.
- Dyslexia is not a sign of poor intelligence.
- Dyslexia is not due to lack of effort.
- Dyslexia can not be outgrown.
• Dyslexia does not mean mixing up b/d.
• Dyslexia is not caused by a vision or hearing problem.
• High comorbidity exists between dyslexia and ADHD. (20-40%)
• Dyslexia is not rare.

What is dyslexia?

Dys + lex + ia

How widespread is dyslexia?

According to the National Center for Education Statistics, about 1 in 5 children in the United States is identified as having a specific learning disability, which is often dyslexia. This means that dyslexia affects a significant portion of the population, making it a common condition.
Multiple definitions of dyslexia exist.

**IDA, NICHD (2002)**
- Dyslexia is a specific learning disability that is neurobiological in origin.
- It is characterized by difficulties with:
  - accurate and/or fluent word recognition
  - poor spelling
  - poor decoding abilities

These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to 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.
Frontal Lobe: pronunciation and articulation

Parietal Lobe: word analysis; sound-symbol connection

Temporal Lobe: meaning

Occipital Lobe: letter/word recognition

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Brain systems for reading:

Dyslexic

Non-dyslexic

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Symptoms & Characteristics:

Oral Language

Reading

Writing

Other

Signs of Dyslexia

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Non-dyslexic

Overcoming Dyslexia, Shaywitz

Eden et al., Neuron, 2004

Non-dyslexic
Phonological Processing

All three components of phonological processing are important for speech production as well as the development of spoken and written language skills.

- Phonological Awareness
- Phonological Working Memory
- Phonological Retrieval

Phonological Awareness Continuum

- Rhyme
- Alliteration
- Sentence Segmentation
- Syllable
- Onset and Rime
- Phonemes

Orthographic Mapping-

- Phoneme-grapheme mapping that allows for long–term storage of words that are recognized instantly.

- Orthographic mapping requires:
  1. Phonemic awareness proficiency
  2. Letter-sound knowledge
  3. Alphabetic Principle
When I was 6, I played soccer. It was fun. My dad was the coach. My favorite it was having games. When the games was off I was worn out.

I like Nancy Drew because she has good mysteries for me to solve and she goes to cool places like Peru.

Phonological Processing
Orthographic Coding
Rapid Automatized Naming
Processing Speed
Working Memory
Dyslexia occurs along a continuum...

Mild  Moderate  Severe  Profound

Early Identification

Early Screening Components:
- Kinder/ early 1st grade
- Phonological awareness, rapid naming, letter-sound association, phonological memory
- Inform instructional planning and support
- Improve early intervention outcomes

“Deficits in phonological awareness, rapid automatized naming, verbal working memory and letter knowledge have been shown to be robust precursors of dyslexia in children as young as three.”
In 2019, New Mexico’s Legislatures passed Senate Bill 398, the Early Intervention bill that, in part, states all school districts must screen first graders for the characteristics of dyslexia, and then provide an appropriate and effective Structured Literacy intervention.

Simulation Task

- What was challenging about this task?
- What strategies did you use?
- How did your feelings change from the beginning of the task to the end?
- What behaviors did you notice from yourself or your colleagues?
- Which supports could have helped you complete this task successfully?

ACCOMMODATIONS

- A tool or modification used to help a student be successful in the classroom or home environment
- Intended to allow equal access to content material and demonstration of skills and knowledge
- NOT a substitute for targeted instructional support
- Presentation, Response, Setting, Timing/Scheduling
- NEVER ASSUME SOMETHING IS ACCESSIBLE.
Supportive Technology

- Audiobooks & E-Books
  - Learning Ally, Bookshare, Audible...

Other Assistive Technology

- Word Prediction (ex. Co-Writer)
- Grammar Checker (ex. Grammarly)
- Graphic Organizers (ex. Inspiration)
- Dictation and writing support
- Many more...

- Must be explicitly taught & practiced

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“Although dyslexia affects individuals over the life span . . . reading skills can be increased with the right early intervention and prevention programs . . .

It is clear from the consensus of scientifically based reading research that the nature of the educational intervention for individuals with reading disabilities and dyslexia is critical.”

(From J. R. Birsh, Connecting Research and Practice, 2018)

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Emily Hanford, AMP Reports

3-Part Series: Hard Words
ampreports.org
• Evolving Terms
  • Orton-Gillingham-based, Multisensory Structured Language
  • Structured Literacy Approach- common set of guiding principles and components, not a specific program
  • Benefits all students; critical for students with dyslexia

• IDA's Knowledge & Practice Standards

Structured Literacy: Key Features

- Explicit, systematic, and sequential teaching of literacy at multiple levels—
  - Phonology
  - Letter-sound relationships, syllables patterns
  - Morphemes
  - Vocabulary
  - Sentence structure, paragraph structure, and text structure

Structured Literacy: Key Features

- Cumulative practice and ongoing review
- High level of student–teacher interaction
- Use of carefully chosen examples/nonexamples
- Decodable text
- Prompt, corrective feedback.

Supporting the whole child

Learn about the science of reading
  - Structured Literacy
Identify early and intervene appropriately
Ensure access
  - Accommodations, assistive technology
Cultivate classroom culture of valuing differences
  - Emphasize strengths
  - Representation–role models, mentors, book characters
  - Self-Advocacy–guided practice, goals
The Many Faces of Dyslexia

Margaret Rawson

The differences are personal.

The diagnosis is clinical.

The treatment is educational.

The understanding is scientific.

References

- International Dyslexia Association. dyslexiaida.org, Factsheets: The Dyslexia-Stress-Anxiety Connection, Dyslexia and the Brain, Universal Screening K-2, Effective Reading Instruction


National Institutes of Child Health and Human Development (NICHD) (2002), Report of the National Reading Panel. Teaching Children to Read-An Evidence-based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction. Bethesda, MD: NICHD www.nationalreadingpanel.org


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Thank you!

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