Dyslexia: What’s what and how do we deal with it?

Mississippi Speech-Language Hearing Association
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Missy Schroeder, MS, CCC-SLP, CALT, CI
DuBard School for Language Disorders
The University of Southern Mississippi
www.usm.edu/dubard

True or False?

1. Dyslexia does not exist, or if it does, it is very rare.
2. Dyslexia is a reading disorder.
3. People with dyslexia see things backwards, like “was” for “saw” or “b” for “d” because dyslexia is a visual perception disorder.
4. Mississippi is the only state who has students who are poor readers.

5. Individuals with dyslexia never have other problems with learning.
6. A physician must diagnose dyslexia.
7. Dyslexia and specific learning disability in reading are distinctly different disorders.
8. SLPs are well-suited to address reading because of the link between oral and written language.

Session overview

1. Language and dyslexia definitions
2. Characteristics of language-learning problems
3. SLD vs. dyslexia
4. Incidence of dyslexia
5. Role of the Speech-Language Pathologist
6. Multisensory intervention

What is a Language Disorder?

The American Speech-Language-Hearing Association defines language disorder as impaired comprehension and/or use of spoken, written and/or other symbol systems.

The disorder may involve (in any combination)
• form of language—phonology, morphology, syntax
• content of language—semantics
• function of language in communication—pragmatics


What is Dyslexia?
International Dyslexia Association

Dyslexia is a **language-based learning disability**. Dyslexia refers to a cluster of symptoms, which result in people having **difficulties with specific language skills, particularly reading**.

Students with dyslexia usually experience **difficulties with other language skills** such as spelling, writing, and pronouncing words. Dyslexia affects individuals throughout their lives; however, its impact can change at different stages in a person’s life.

**Dyslexia is referred to as a learning disability** because dyslexia can make it very difficult for a student to succeed academically in the typical instructional environment, and in its more severe forms, will qualify a student for special education, special accommodations, or extra support services.

[http://eida.org/frequently-asked-questions-2/](http://eida.org/frequently-asked-questions-2/)

American Speech-Language-Hearing Association

**Dyslexia** has been used to refer to the specific learning problem of reading. The term **language-based learning disability**, or just **learning disabilities**, is better because of the relationship between spoken and written language.

**Many children with reading problems have spoken language problems.**

The child with dyslexia has trouble almost exclusively with the written (or printed) word. The child who has dyslexia as part of a larger language learning disability has trouble with both the spoken and the written word.

[http://asha.org/public/speech/disorders/LBLD.htm](http://asha.org/public/speech/disorders/LBLD.htm)

Dyslexia refers to a **cluster of symptoms**—not all students will present with all difficulties, nor will all individuals with dyslexia look the same!
The Role of the SLP in Reading

According to ASHA the Speech-Language Pathologist plays a **critical role in reading instruction** because the SLP has the specialized knowledge to provide the connection between spoken and written language.


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a) children with spoken language problems frequently have difficulty learning to read and write, and children with reading and writing problems frequently have difficulty with spoken language;
b) instruction in spoken language can result in growth in written language, and instruction in written language can result in growth in spoken language.


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The fundamental connections between spoken and written language necessitate that intervention for language disorders target written as well as spoken language needs. As with difficulty in learning to listen and speak, difficulty in learning to read and write can involve any of the components of language—phonology, morphology, syntax, semantics, and pragmatics.


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**House Bill 1031**

**Dyslexia Therapy Law Update**

Source: Mississippi Department of Education
http://www.mde.k12.ms.us/curriculum-and-instruction/dyslexia

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**HB 1031**

- **Purpose**
  - Provide money for students with dyslexia to attend a school that offers appropriate services
  - Screen all children for dyslexia in the spring of Kindergarten and the fall of 1st grade
  - Determine the components of an effective dyslexia screening instrument
  - Determine who can test for dyslexia
  - Provide that diagnosticians receive training in evaluation and diagnosis of dyslexia

Source: Mississippi Department of Education
http://www.mde.k12.ms.us/curriculum-and-instruction/dyslexia
Dyslexia Screener

The dyslexia screener must include the following components:

- Phonological awareness and phonemic awareness
- Sound symbol recognition
- Alphabet knowledge
- Decoding skills
- Encoding skills
- Rapid naming

Source: Mississippi Department of Education
http://www.mde.k12.ms.us/curriculum-and-instruction/dyslexia

Characteristics of Students with Dyslexia

- Poor attention, especially for language
- Poor memory and poor memory for sequences
- Poor predictability for language
- Performance and achievement below expectations
- Difficulty with phonological awareness—including segmenting and blending

- Difficulty with sound-symbol association
  - Poor spelling
  - Inaccurate or labored oral reading—lack of reading fluency
  - Difficulty with comprehension—oral and written
  - Difficulty in word finding and rapid naming
  - Poor written expression

- Messy handwriting prone to size and spacing errors
  - Directional uncertainty
  - Poor organizational skills
  - Negativism and emotional upset indicative of unused learning ability
  - Family history of similar problems or history of speech problems

Source: Mississippi Department of Education
http://www.mde.k12.ms.us/curriculum-and-instruction/dyslexia

• Diagnosis of dyslexia must come from a licensed psychologist, psychometrist, or speech-language pathologist.
How Common is Dyslexia?

According to Dr. G. Reid Lyon, Chief of the Child Development and Behavior Branch of the NICHD at NIH:

5% of children in our nation learn to read almost by magic, or without formal instruction.

20-30% of children learn to read relatively easily once exposed to formal instruction. This group of children will learn to read in any classroom with any instructional emphasis.

60% of children have much greater difficulty learning to read, and for 20-30% of these children, reading is one of the most difficult tasks that they will have to master throughout their school experience.

Approximately 15% of students have dyslexia. This can mean 3 or 4 children in an average-sized general education classroom will have great difficulty learning to read.

2013 Nation’s Report Card

Mississippi’s 4th grade students scores in reading

• 47% below Basic
• 32% Basic
• 18% Proficient
• 4% Advanced

Mississippi’s 4th graders had an average score in reading of 209 which was lower than the average national score of 221.


- Approximately 20% of elementary students nationwide have difficulty learning to read.
- Rate of reading failure for minority students, ELL students, and those living in poverty is 60-70%.
- 1/3 of poor readers are from college-educated families.
- 25% of U.S. adults lack basic literacy skills necessary for a typical job.


30% of American kindergarteners are at risk for reading failure—many of these students come to school with language-deficiencies. These students lack adequate oral language development, print awareness, etc.


www.nctq.org/nctq/images/nctq_reading_study_app.pdf

What is a Specific Learning Disability (SLD)?

www.idea.ed.gov

Individual with Disabilities Education Act (IDEA) (Section 602) (Statute)

(A) In general—The term ‘specific learning disability’ means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations.

(B) Disorders included—Such term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.
Characteristics compared

**Dyslexia**
- Difficulty with
  - Reading
  - Spelling
  - Decoding
  - Reading Comprehension
  - Writing

**SLD**
- Difficulty with
  - Reading
  - Writing
  - Spelling
  - Reading Fluency
  - Reading Comprehension

IDA 2008; IDA and NICHD, 2002

IDEA Section 602 and Section 300.309

How do we teach children who have reading disorders, including dyslexia?

NICHD research tells us that in order for a beginning reader to learn how to connect or translate printed symbols (letters) into sound, he must understand that:

- speech can be segmented or broken into smaller units (phoneme awareness)
- that the segmented units can be represented by printed forms (phonics).

Multisensory Learning

Multisensory learning involves the use of visual, auditory, motorkinesthetic, and tactile pathways simultaneously to enhance memory and learning of written language.

### Principles of Instruction

<table>
<thead>
<tr>
<th>Content: Structure of the English Language</th>
<th>Graduated Mastery/ Mastery</th>
<th>Systematic &amp; Cumulative</th>
<th>Direct Instruction</th>
<th>Diagnostic Teaching</th>
<th>Automaticity</th>
<th>Synthetic/ Analytic Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonology &amp; phonological awareness</td>
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<tr>
<td>Sound/symbol association: visual to auditory, auditory to visual, blending and segmenting</td>
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<td>Syllables: types and patterns for division</td>
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<td>Morphology: base words, roots, affixes</td>
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<td>Syntactical: grammar, sentence variation, mechanics of language</td>
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<td>Semantics: meaning</td>
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Phonological awareness encompasses many different areas:

- Rhyming
- Identifying words that begin or end with the same sound
- Identifying sounds in various positions in words
- Manipulating sounds in a word (such as saying the word without the first or last sound)
Ability to segment sentences into component words

- Ability to segment words into component syllables
- Ability to segment words into component sounds
- Ability to blend phonemes into words

Rhyming with Word Families

at

cat mat sat fat

c m s f

I saw a red elephant.

el e phant

r e d

Deficient development of phonological awareness is a critical diagnostic sign of dyslexia for two reasons:

1. When compared to typical readers, children with dyslexia are consistently more impaired in phonological awareness than any other single ability.

2. Measures of phonological awareness administered in kindergarten strongly predict rate of growth in word reading ability, which is the reading skill that is most problematic for children with dyslexia.

PHONEMIC AWARENESS

Phonemic awareness is included in phonological awareness but is concerned with the way that the sounds in words correspond to the written graphemes.
Sound-Symbol Association

Sound-symbol association is also known as the alphabetic principle.

Second Grade Dolch Words

- best
- fast
- first
- found
- sleep
- right
- work
- which
- green
- us
- why
- sing

Types of Syllables

<table>
<thead>
<tr>
<th>Type</th>
<th>Name of Syllable</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>R-controlled</td>
<td>tar, arm, earth, bird</td>
</tr>
<tr>
<td>E</td>
<td>Magic E</td>
<td>ate, quake, rhyme</td>
</tr>
<tr>
<td>V</td>
<td>Vowel Team</td>
<td>tea, train, boil, tray</td>
</tr>
<tr>
<td>L</td>
<td>Consonant + le</td>
<td>maple, apple, beagle</td>
</tr>
<tr>
<td>O</td>
<td>Open</td>
<td>me, go, table</td>
</tr>
<tr>
<td>C</td>
<td>Closed</td>
<td>rob, snap, milk</td>
</tr>
</tbody>
</table>

Types of Syllables

- **R Controlled**—A syllable that has an R right after the vowel. The vowel sound is neither long nor short.

- **Magic E**—Always at the end of a word. Magic E jumps over the consonant to make the previous vowel long.

- **Vowel team**—Two vowels together usually make one sound.

Consonant + le—This syllable is always at the end of a word.

- **Open**—A syllable ending in a vowel is OPEN and the vowel is LONG and says its own name. Check for Magic E or Consonant +le first. A vowel at the end of an accented syllable is long.

- **Closed**—A syllable where a vowel is followed by most consonants is CLOSED. The vowel gives its SHORT sound. Check for R-controlled or Vowel Team first.
When labeling syllables, follow these steps:

1. Always look for R first.
2. Then look for E, V, L next.
3. Last, look for O and C.

Source: Presentation by Gena Calloway and Ellen M. Hill, M.Ed., at IDA, November 6, 1999. As used at The Schenck School, Atlanta, Georgia.

7 WAYS TO DIVIDE SYLLABLES

**Compound Word**: Divide between the two words (birth/day).

**Consonant + le**: Count back three letters and divide (mar/ble).

**Prefix/Suffix**: Divide between the prefix and the root word and/or the suffix and the root word (un/tie, joy/ful, un/friend/ly).

**VCCCV**: Leave the consonant blends and digraphs together (ath/lete, pump/kin, hun/dred).

**VCCV**: Divide between the two consonants (rab/bit, ban/dit).

**VCV**: 60% of the time, divide after the first vowel to get a long sound (pi/lot). 40% of the time, divide to get a short sound (cab/in).

**VV**: Divide between unstable digraphs and diphthongs or between vowels that do not form digraphs or diphthongs (ru/in).
Semantics

Semantics is the study of meaning.

Comprehension activities MUST be included during reading instruction!
• explicit sound/symbol instruction
• direct instruction in vocabulary
• direct instruction in morphology

Morphology

A morpheme is the smallest unit of meaning in oral and written language.

Morphemes include prefixes, root words, and suffixes.

Morphological knowledge entails sensitivity to the internal, meaning-related structure of words, including infections and derivational forms.

The four most frequent prefixes account for 97% of prefixed words in printed school English

• dis- (not, opposite of)
• in-, im-, il-, ir- (not or in)
• re- (again)
• un- (not)

The four most frequent suffixes account for 97% of suffixed words in printed school English

• -ed (past tense verb)
• -ing (present tense verb)
• -ly (characteristic of)
• -s, -es (more than one)

Beginning in 3rd grade, students are expected to build vocabulary using Greek and Latin roots

• bio—life (biology, antibiotic)
• graph—write (autograph, photograph)
• phone—sound (telephone, microphone)
• rupt—burst (interrupt, erupt)
• scope—see, look (microscope, telescope, kaleidoscope)
• terra—land (terrain, territory)

REMEMBER:
Adding the multisensory components (visual, auditory, motor-kinesthetic, tactile) are what makes these activities multisensory!
DuBard School for Language Disorders
The University of Southern Mississippi

- In existence for 53 Years
- Clinical Division of the Department of Speech and Hearing Sciences
- IMSLEC accredited at Teaching, Instructor of Teaching, Therapy, and Instructor of Therapy levels (one of first 4 accredited programs in the nation, 1st accredited program in MS)
- IDA accredited program
- Staffed by nationally-certified speech-language pathologists and Certified Academic Language Therapists (CALTs)

www.usm.edu/dubard
601-266-5223