Wanted: Teachers with Knowledge of Language and Dyslexia

Presented by:
Louisa Moats, Ed.D.

Moderated by:
Doug Sprei, National Communications Director, Learning Ally

Hosted by:
Education Week
Agenda:

• Brief Learning Ally Overview

• Dyslexia Presentation -- Dr. Louisa Moats

• Q & A Session

Twitter: @Learning_Ally
Hashtag: #dyslexiatalk
The world’s leading online library of audio textbooks and literature titles

Human-narrated core educational materials, with more than 80,000 digitally recorded titles -- accessible for students with print disabilities

- Textbooks for K-12 and college/graduate levels
- Only fully accessible STEM content provider
- Thousands of new titles added each year – produced against K-12 adoption lists and local curriculum lists to support districts and states
- Expert readers matched with subject matter – informed narration makes a difference!

- New VOICEtext technology syncs human voice with text on-screen to maximize student comprehension
- Accessible on mainstream devices students use every day
Expert Support for Schools and Teachers

Teacher Ally enables educators to help students get the most out of their audiobook materials through an intuitive learning management system.

My Students

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>ID #</th>
<th>Grade</th>
<th>Books</th>
<th>Opened</th>
<th>Read</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe</td>
<td></td>
<td>a2346</td>
<td>4</td>
<td>24</td>
<td>2</td>
<td>462</td>
</tr>
<tr>
<td>Jane Anne</td>
<td>Rogers</td>
<td>a2346</td>
<td>4</td>
<td>32</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Chris</td>
<td>Jones</td>
<td>v3241</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select and assign books easily

Make informed recommendations for additional resources for each student

Alerts to identify which students need books

Effectively monitor reading engagement with at-a-glance page counts*

*with use of Learning Ally Audio app

Learning Ally
Making reading accessible for all.
Learning Ally is rolling out professional teacher training all over the U.S. Live and online workshops provide teachers with CEUs and strategies to use immediately in the classroom to support students who learn differently.

Topics covered include:

- Understanding Common Core
- Differentiated Instruction
- Universal Design for Learning
- Accessible Instructional Materials
- Data-Based Decision Making and much more

Case in point: Groundbreaking legislation passed in New Jersey requires all schools to provide better support for students with dyslexia -- Professional Development initiative launching in NJ DOE Learning Resource Centers.

Learning Ally spearheading initiative to educate all NJ teachers on dyslexia.

The shape of things to come: National PD as other states adopt similar bills!
“I think Learning Ally plays an important role in educating teachers and parents on the differences that are advantages as well as disadvantages in our children with dyslexia. We have to have interventions that can target the specifics of these children; that’s where the audiobooks, and your work on parent services and professional development – they all play a part.

“We have to have teachers who have eyes and ears and a cerebral cortex that’s filled with knowledge. They are the ones who will have what we call ‘the prepared mind’ when they see a child with dyslexia.”

- Maryanne Wolf
Louisa Moats, Ed.D.

- Teacher, Psychologist, Researcher
- Author of articles, journals, books on reading, spelling, language and teacher preparation
- Contributing writer of the Common Core State Standards for grades K-5
Wanted: Teachers with Knowledge of Language and Dyslexia

Louisa Moats, Ed.D.
Learning Ally Webinar, March, 2014
Questions We’ll Address

• What is dyslexia?
• What causes dyslexia?
• What can we do about it?
• What should educators know and do for students with dyslexia?
• Where can they learn what they need to know?
Dante: Post-graduate year. Verbal IQ 128 (superior); high honors in conceptual physics. Very low score on SAT essay (380). Reading, 17th %ile.

Retained in 2nd grade.
What is Dyslexia?

• From the Greek
  – dys – difficulty, lexia – words
• Hereditary (Olsen et al., SSR, 2014)
• Neurobiological in origin
• Developmental and chronic
• Affects 5-15%, depending on the study
  – Mayo Clinic
  – Yale Center for LD
  – World Health Organization
Dyslexia: Definition (IDA, 2002)

- One of several distinct reading difficulties
- Characterized by...
  - Poor decoding and encoding (spelling)
  - Problems with accurate and/or fluent printed word recognition
  - Inconsistent with age and/or cognitive ability
  - Often/typically associated with difficulty identifying, manipulating, and/or producing the speech sounds in spoken words (phonology)
Dyslexia is present when the automatization of word identification (reading) and/or word spelling does not develop or does so very incompletely or with great difficulty. The term automatization refers to the establishment of an automatic process. A process of this kind is characterized by a high level of speed and accuracy. It is carried out unconsciously, makes minimal demands on attention and is difficult to suppress, ignore or influence…
The Many Strands that are Woven into Skilled Reading
(Scarborough, 2001)

LANGUAGE COMPREHENSION

BACKGROUND KNOWLEDGE (facts, concepts, etc.)

VOCABULARY (breadth, precision, links, etc.)

LANGUAGE STRUCTURES (syntax, semantics, etc.)

VERBAL REASONING (inference, metaphor, etc.)

LITERACY KNOWLEDGE (print concepts, genres, etc.)

WORD RECOGNITION

PHONOLOGICAL AWARENESS (syllables, phonemes, etc.)

DECODING (alphabetic principle, spelling-sound correspondences)

SIGHT RECOGNITION (of familiar words)

SKILLED READING: Fluent execution and coordination of word recognition and text comprehension.
How We Read and Spell Words

Context Processor

Meaning Processor

Phonological Processor

Orthographic Processor

speech input and output

spelling

visual input
How We Recognize Printed Words

Units of Analysis

unreachable
un-reach-able
un-reach-a-ble
u-n-r-ea-ch-a-b-le
u-n-r-e-a-ch-a-b-l-e

word
morpheme
syllable
grapheme
letter
Common Characterization: The Roadblock in Dyslexia

Text

Sound-symbol correspondence

General Intelligence
Vocabulary
Word Identification
Reasoning
Concept Formation

= Meaning
A Newer Conceptualization of Reading Disabilities (Fletcher et al., 2007; Aaron, Joshi et al., 2008; Moll, Loff, & Snowling, 2013)…
## Sam’s Reading Evaluation – Woodcock Reading Mastery Test

<table>
<thead>
<tr>
<th>Subtest</th>
<th>Standard Score</th>
<th>Percentile Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Identification</td>
<td>73</td>
<td>4</td>
</tr>
<tr>
<td>Word Attack</td>
<td>71</td>
<td>3</td>
</tr>
<tr>
<td>Word Comp</td>
<td>78</td>
<td>7</td>
</tr>
<tr>
<td>Passage Comp</td>
<td>72</td>
<td>3</td>
</tr>
<tr>
<td><strong>Composite</strong></td>
<td><strong>72</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>
Clinicians who wish to draw a profile should first transfer the child’s scaled scores to the row of boxes below. Then mark an X on the dot corresponding to the scaled score for each test, and draw a line connecting the X’s.

**VERBAL TESTS**

<table>
<thead>
<tr>
<th>Scaled Score</th>
<th>Information</th>
<th>Similarities</th>
<th>Arithmetic</th>
<th>Vocabulary</th>
<th>Comprehension</th>
<th>Digit Span</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>18</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>17</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>16</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>15</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>14</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>13</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>12</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>11</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>10</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>9</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>8</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>7</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>6</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>5</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>4</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>3</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>2</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>1</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

**PERFORMANCE TESTS**

<table>
<thead>
<tr>
<th>Scaled Score</th>
<th>Picture Completion</th>
<th>Picture Arrangement</th>
<th>Block Design</th>
<th>Object Assembly</th>
<th>Coding</th>
<th>Mazes</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>18</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>11</td>
</tr>
<tr>
<td>17</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>11</td>
</tr>
<tr>
<td>16</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>11</td>
</tr>
<tr>
<td>15</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>11</td>
</tr>
<tr>
<td>14</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: *See Chapter 4 in the manual for a discussion of the significance of differences between scores on the tests.*

**Results:**

- **Verbal IQ:** 80
- **Performance IQ:** 105 (117)

**Percentiles:**

- 75th%
- 25th%
What Components of Instruction Should Be Emphasized for Sam?

- phonological awareness
- phoneme-grapheme mapping (encoding)
- accurate blending, word reading (decoding)
- vocabulary: multiple meanings, elaborated definitions, spatial and temporal words; categorization; inflectional morphemes
- sentence elaboration and formulation
- verbal reasoning and expressive skills
Phoneme Identification

Link the phoneme to a gesture, object, or picture of the word.

– Call attention to articulation.
– Identify the sound in spoken words.
– Cue the production of the sound with the gesture, object, or picture.
– Then, associate the phoneme with a grapheme.

/ʊ/
“Deep Knowledge” of Words

- Antonyms
- Synonyms
- Examples in context
- Linguistic Structure
- Connotations/Denotations
- Multiple meanings
- Categories

(word)
Phonological Deficits Characterize Reading Disabilities On the Whole…

Connecticut Study (Fletcher, Shaywitz et al.)

- Problem Solving
- Concept Formation
- Phonological Awareness
- Rapid Naming
- Vocabulary
- Paired Associate Learning
- Visual Motor

Age Adjusted Standardized Score
Do All Dyslexic People Have Phonological Deficits?

Franck Ramus (cited in Dehaene, 2009)

• “A core deficit in phonological processing lies at the origin of most dyslexia..” but “about one in four presents a pronounced visual [orthographic] deficit and no phonological impairment.” (p. 242)

• “The problem that faces us is complex and does not have a single well-defined cause.”

• “A joint deficit of vision [orthographic memory] and language.”
Case Study #2, 2nd Grader

WISC Vocabulary 98th %ile
Full Scale IQ 90th %ile
Listening Comp 98th %ile

WIAT III Word Reading – 16th %ile
Gray Oral Rate & Accuracy – 16th %ile
OWLS-II (Reading Comp) 20th %ile
Woodcock RMT Word ID - 16th %ile
Spelling (TWS-4) – 12th %ile

Is accurate at decoding elements (untimed)

Phonological Awareness (PAT, C-TOPP) all above avg.

Dear Dr. Moats,

When I read I want to scream!
When I read in my head I get a head ache. Sometimes when I get my spelling test back in my folder I cry because I miss so many words. In math and science and English I don’t do good at. My favorite thing to do at home is frint.
spelling test

1. softly
2. flams
3. mal
4. bake
5. set
6. cloping
7. backed
8. cape
9. makeing
10. rake
11. fog
12. tugd
13. Eamlish
14. languish
15. understand
Poor Nonsense Word Decoding – Common but Not Universal

- sloat
- broige
- bemuddlement
- tyresterine
- chlorebasticism
Instruction Aimed at the Problem of Poor Memory for Orthography

- Establish “sight word” habits for highest frequency words
- Teach a few at a time
- Constantly review and reteach as needed
- Teach the logic of English spelling, emphasizing patterns, word origin, and morphology
- Use word sorting to aid visual attention to print
- Use computer to reinforce sight word reading
- Do not spend time on phoneme segmentation unless to explain a pattern
Educational Intervention for Dyslexia and Reading Difficulties

- Linguistic concepts
- Systematic
- Explicit
- Cumulative
- Multisensory
- Intensive
- Applied to purposeful reading and writing
• Much of current reading instruction remains mired in a view of reading instruction that is incompatible with the science of reading.

• The process of becoming a reader is described as a natural, organic process, despite the fact there is no evidence to support such a view.
“We have lots of information technology. We just don’t have any information.”
Teachers’ Disciplinary Knowledge: A Topic of Discussion for Years…

- *Wanted: Teachers with Knowledge of Language* - Lyon & Moats, 1996
- *Informed Instruction for Reading Success* - Brady & Moats, 1997
- *Teaching Reading is Rocket Science* - AFT (Moats), 1999
- *Knowledge to Support the Teaching of Reading* - Snow, Griffin, & Burns, 2005
There are Many Studies of Teachers’ Knowledge

- Moats & Foorman, 2003; Moats, 2009
- Bos et al., 2001
- J. Cornier, 2004
- Piasta, Connor, Fishman, & Morrison, 2009
- Brady et al., 2009
- Joshi et al…
Teaching Expertise is More Important than the Program Alone
Piasta et al. (SSR, 2009)

• Students’ gains were predicted by the interaction between teacher knowledge and amount of explicit decoding instruction students received
• Highly scripted core curricula “cannot replace the expert teaching of highly knowledgeable teachers”
• More code instruction by teachers with low levels of knowledge did not produce student gains
IDA’s Knowledge and Practice Standards for Teachers of Reading

Adopted by the International Dyslexia Association and the Alliance for the Accreditation and Certification of Structured Language Education (ALTA and IMSLEC)

www.interdys.org
Purpose of Standards

• …to guide the preparation, certification, and professional development of those who teach reading and related literacy skills in classroom, remedial, and clinical settings;

• …to specify what any individual responsible for teaching reading should know and be able to do, so that reading difficulties, including dyslexia, may be prevented, alleviated, or remediated.
1. Foundation Concepts About Oral and Written Language Learning

• How language and reading are related
• Why learning to read is not natural
• How the process unfolds over time
• How good readers differ from poor readers
2. Knowledge of the Structure of Language

- Phonology and phonemes
- English orthography
- Morphology
- Semantics
- Syntax
- discourse
3. Knowledge of Dyslexia and Other Learning Disabilities

For example:

…Match symptoms of the major subgroups of poor readers as established by research, including those with dyslexia, and identify typical case study profiles of those individuals.
4. Interpret and Administer Assessments for Planning Instruction

- Screening
- Diagnosis
- Progress-monitoring
- Outcome
5. Applications in Structured Language Teaching

- Phonological skills
- Phonics and word recognition
- Fluency
- Vocabulary
- Comprehension
- Spelling and Writing

Observable Competencies for Teaching Students with Dyslexia and Related Difficulties
6. Ethical Standards (11)

For example,

- “Do no harm…”

- “…avoid making unfounded claims of any kind regarding the training, experience, credentials, affiliations and degrees of those providing services”
Recognized, Aligned Programs

- Univ. Colorado, CS
- Southern Methodist U.
- Simmons (Boston)
- St. Joseph’s, Phila.
- MGH Institute
- Fairleigh Dickinson
- Colorado College
- College of Mt. St. Joseph’s (Ohio)

Accrediting Organizations:
IMSLEC, NILD
Where to Find Good Information

- Learning Ally
- The International Dyslexia Association
  - www.interdys.org
- Yale Center for Dyslexia and Creativity
  - Dyslexia.yale.edu
- Decoding Dyslexia (parent advocacy group)
- National Center for Learning Disabilities
Questions & Answers

Contact Info:

**Presenter:**
Louisa Moats, Ed.D.
Louisa.Moats@gmail.com

Learning Ally Education Solutions
programs@LearningAlly.org
800.221.1098

Webinar Questions?
enews@LearningAlly.org

LearningAlly.org
www.Facebook.com/LearningAlly.org

Twitter Hashtag: #dyslexiatalk