



“2023 BU Wheelock Forum” Supporting Students with Reading Disabilities: Toward Equity and Access

QUESTIONS AND ANSWERS

Session 1: The State of the Science of Reading for Supporting Students with Reading Disabilities

Panelists:

- Nancy J. Nelson, Assistant Professor of Special Education, BU Wheelock
- Elsa Cárdenas-Hagan, President, Valley Speech Language and Learning Center
- Nicole Landi, Associate Professor, Psychological Sciences, University of Connecticut

Identification/Co-Morbidity:

1. *We always say dyslexia is independent of intelligence. Why are so many definitions of dyslexia built on a discrepancy model, leaving out the average or below-average student with dyslexia?*

Historically, the category of learning disabilities was developed to identify needs and provide support to students with “normal” intelligence, who seemed not to be succeeding despite it. In addition, to distinguish LD from other disabilities, “normal” intelligence was included in diagnostic criteria. These criteria are pervasive in diagnostic models still used today (e.g., IQ-achievement discrepancy model), even if best practice indicates otherwise (e.g., Miciak & Fletcher, 2020).

2. *Is dyslexia a decoding problem, a fluency problem, a comprehension problem, a combination, or could it be anyone of these?*

Dyslexia is a word-level reading disability (see Fletcher, Lyon, Fuchs, & Barnes, 2019), which means it’s first and foremost, a problem with accurate, fluent decoding. Secondly, reading comprehension may be affected by disfluent reading and/or limited exposure to text over time.



3. How do we navigate the issue of IEP eligibility when we know that most children do not have access to high-quality, evidence-based tier 1 instruction?

We don't want to deprive a child of needed educational support because of eligibility processes. The idea that Tier 1/core reading instruction should be high-quality and evidence-based is a way of communicating that general education resources must be exhausted to determine that specially designed instruction is necessary. If Tier 1 instruction is lacking, best practice would be to enhance Tier 1 and provide supplemental support in Tier 2, with progress monitoring and implementation adjustments over time, until it is clear that what a child needs is more than general education can provide.

4. I am an elementary reading specialist working with many students with or with characteristics of ADHD. Although we know students with dyslexia could also have ADHD, sometimes students don't truly have a reading disability. Teachers can be quick to label these kids as having a reading disability but perhaps that is not the issue. Are there strategies/ways to tease out if a student has a reading disability or if ADHD is causing a child to struggle in reading? How can ADHD impact a child's ability to read?

It can be challenging to disentangle dyslexia from some other disabilities, like ADHD. Students with ADHD have difficulty sustaining attention, which can affect acquisition of new material and active engagement while reading. In a school context, it is most important to focus instruction and support on the skill needs that are presented – reading, social-emotional, behavioral, etc. – and develop instructional plans that target those skills. Many of the strategies and accommodations that are effective for dyslexia will also be effective for students with ADHD assuming the child is experiencing reading difficulty.

Screening/Assessment/Multi-lingual Learners

1. As more schools and systems shift to using evidence-based universal screening tools, how can we ensure they are being used appropriately and with fidelity?

The uniqueness of many universal screening tools makes it difficult to apply a one-size-fits-all approach. There are at least three steps that schools and systems can use to ensure that the process of administration and quality of data are being used appropriately. First, pulling together a team of individuals who work together to ensure that the administration protocols are well understood will help during the screening process. Second, collecting information through formal or informal means about how the screening practices are implemented (for example, conducting random observations of screening practices in a school) will help the team compare what is observed in a school for administration practices to what is expected from the screening tool protocols. Third, ongoing review and discussion of the obtained data will help teams compare and contrast their intended data use to actual data use in schools.



2. How can we screen dyslexia versus another type of disability? Or, do kids with dyslexia have an array of disabilities, such as language processing or processing speed?

A particular challenge in screening processes is that the answer to the question of, “How can we screen for X?” will rarely lead to one website or recommendation to answer that question. For example, the National Center on Intensive Interventions maintains the Academic Screening and Behavior Screening Tool Charts to help individuals choose screeners for literacy or math difficulties as well as internalizing or externalizing behaviors. Separately, the National Institutes of Health released a report in 2015 reviewing screening instruments for speech and language delays in disorders. In neither of these examples do the creators and authors suggest that their work captures all available tools or processes; however, these are good first starting places to see if there are tools that can serve the need of screening.

3. How do we bring everyone on board with understanding universal screening, not just general educators but also EL educators and special educators?

A team-based approach to translational science was recently written by Dr. Nicole Patton Terry and her colleagues (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8130832/>) as well as by Dr. Emily Solari and her colleagues (<https://doi.org/10.1002/rrq.357>) that can begin to help the field move to better pathways of understanding how to choose and use screeners.

4. How can we accurately screen dyslexia in multi-lingual learners? What reading assessments can be used with multi-lingual learners when evaluating eligibility for special education? With a translator reading or interpreting or without? What about older students with interpreted education that don’t have literacy in L1? As an ESL teacher, I’m told my students can’t be tested because tests aren’t “normed” for them.

There is a free fact sheet from the International Dyslexia Association on how to screen for reading risk. It is on the main page at www.dyslexiaida.org. The article also includes the special considerations necessary for assessment among English learners. These considerations can apply to screening and testing in general. Look for tests that include the sub-population of students in their samples and those that report the reliability and validity among English learners. If they do not then you must interpret with caution. Another consideration is to use conceptual scoring whereby you determine if the student responds in the home language and give credit for the response. In this way, you will learn if the student understands the concept but only requires a new label or word in the second language to describe the concept.



5. If a child's home language is a less common one in the school (e.g., Haitian Creole, Cambodian), how do we conduct a valid assessment if testing material in the home language is unavailable?

If there is no bilingual assessor available who speaks both the child's native language and English, the first step would be to determine if the district provides an interpreter that could be used to ensure assessments are completed in the native language (L1). It is important to determine whether language delays or weaknesses are present in L1, which could have an impact on L2 (English) development. The interpreter would need to be able to accurately translate instructions, questions, and responses while also following guidelines of the assessment process and maintaining confidentiality.

If no interpreter is available and it is still determined that testing is needed in L2, the assessor should be sure to state that information in the report. Several assessments provide culturally sensitive scoring approaches that can be used to ensure the student isn't penalized for linguistic variations. After completing the standardized assessment, it is also important to utilize informal measures such as dynamic assessment and language sampling to get a less-biased view of the student's strengths and weaknesses. See Johnson & Gatlin-Nash, 2020 for more details.

Curricula/Instruction/Intervention

1. If neuroscience within the reading brain is the foundation of this work, how do we support educators to understand the science to bridge theory to practice in language that is educator friendly? Do you feel fMRI scans/research should be shared?

Neuroscience is best seen as complementary to behavioral assessment/investigation – at a group level we can learn about the neurocircuitry that supports reading, how it differs as a function of reading skill (and/or disability) and how it changes over time, and this tells us something about biological constraints and how neural resources are brought to bear for different subtypes of readers under different situations as well as how much plasticity is in the system. However, at this point, it's not particularly useful for diagnosis or treatment. It's helpful for educators to learn about MRI findings (and those from other neuroscience methods too) – it's a good reminder that all behavior is rooted in the brain (something we all know but sometimes forget) and it's helpful for showing the complexity of the system that supports reading. Sometimes we expect that whatever is going on with a given student can be reduced to one issue, and that is typically not the case – brain data helps us to visualize why this is so (many regions and processes are involved in reading). Ideally, educators should be exposed to research that uses MRI (and other cognitive neuroscience methods) directly through research partnerships or coursework. Such direct exposure helps to debunk neuromyths and improves science education (learning about the scientific method, statistics, etc.). When this isn't possible, books such as Mark Seidenberg's [Language at the Speed of Sight](#) and Stan Dehaene's [Reading in the Brain](#) are a great place to start and accessible



articles such as Kearns et al. (2019) [The Neurobiology of Dyslexia](#). Attending lectures at practitioner-oriented conferences is another good way to expose teachers to these methods and findings – conferences such as IDA and ASHA, as well as local branch conventions, are good places to look for talks on the neuroscience of reading. In addition to talks, most researchers are more than happy to chat with practitioners to answer any questions they may have.

As for sharing scans, giving schools, parents, or teachers scans is not very useful. Single-subject scans are not used by researchers to draw conclusions either – they might look at/compare individual scans to determine the reliability of a particular fMRI task (i.e., do they reliably see activation in speech areas during a speech processing task) or to screen for gross anomaly such as tumors, but they are not used to diagnose or assess reading or dyslexia. While on average, we do see some characteristic patterns of neural activation associated with dyslexia, a given student may not show that pattern despite clear reading difficulty. If we were able to obtain multiple scans from the same child, our ability to obtain a reliable picture of their brain's response would improve; however, even with a more reliable measure, we still do not know what all the possible patterns we might observe mean at a single scan level. At present, a comprehensive battery of behavioral assessments combined with family and educational history are the best tools we have.

2. Is there any recourse for schools that purchase materials and curricula that don't do what they say they do (i.e., cause harm to children, truth in advertising, consumer protection)?

At this point in time, I'm not aware of any action schools can take against publishing companies for false advertising. The burden of proof is fairly high for schools to do so. Parents and families may have more recourse against school systems that fail to use effective programs – but that also requires substantial resources to pursue.

3. A common trend within our school district is that curricula is “too difficult” for our multi-lingual learners (MLLs), especially those with identified disabilities. We have been tasked with providing guidance/support for these learners. Although there is a need for temporary scaffolds, it feels inequitable to lower rigor and expectations as well as instructional crutches. How can we ensure this population has equitable education and opportunities? Access to complex text?

You can surely provide access to complex information by using the appropriate language scaffolds, which should be aligned to the student's language proficiency level. Teachers can provide the scaffolds while systematically and explicitly building students' language and literacy skills. Remember, language supports literacy, and literacy supports language. In studies of teaching math and science to multilingual learners, information was frontloaded with discussion to build background knowledge, read-alouds were introduced that aligned to the content, and explicit vocabulary instruction with multiple opportunities for use was



provided. Building routines for learning information is very necessary for this diverse population of students. You can read about the studies and learn some effective practices from the IES PRACTICE GUIDE entitled [Teaching Academic Content and Literacy to English Learners in Elementary and Middle School](#).

4. How can we know that the interventions we are providing for students with reading difficulties are actually evidence-based when in fact, the empirical data supporting most popular interventions is still lacking?

Evidence-based can mean different things to different individuals so it's important for us to first use a working definition. In the Every Student Succeeds Act, evidence-based programs are those that are supported by strong evidence (at least one well-designed and well-implemented experimental study), moderate evidence (at least one well-designed and well-implemented quasi-experimental study), promising evidence (at least one well-designed and well-implemented correlational study), or evidence that demonstrates a rationale (for example, including a well-specified logic model that is informed by research with a planned study).

5. Traditional phonics is tremendously language heavy and may relate to attentional difficulties. Could we consider a linguistic phonics approach which requires significantly less cognitive resources and allows students to learn to read and spell faster?

It is important to remember that oral language skills are foundational for learning to read. The skills needed for successful reading are directly aligned with the components of oral language. When students can grasp the alphabetic principle and the relationship between sounds and graphemes (letters and letter combinations), the cognitive load is reduced as they apply this principle to systematically decode and encode words.

6. Can you speak to the potential of the speech-to-print shift (as opposed to print-to-speech) within the Science of Reading camp?

*In the speech-to-print framework, the 44 English phonemes are taught with an understanding of how each can correspond to a different number of graphemes first. Dr. Louisa Moats recommends targeting phonemes in a simple to most complex sequence in her text *Speech to Print* (2020). This allows the common sound-symbol correspondences and orthographic patterns to be taught first, then moving to less common patterns. In both approaches, the sequence needs to be taught explicitly and systematically.*

7. How important are advanced phonological practice/skills for students with dyslexia? Should phonemes be connected to graphemes as soon as possible to be most effective and efficient?

The purpose of phonological awareness activities should always lead to an understanding that letters represent sounds, which in turn, benefits both decoding and encoding skills down



the road. Phonemic awareness skills are critical for students with dyslexia and should always be included within interventions.

8. What is the metric for “more”? When we have kids, we identify, and we say they need more, can we identify how “more” is implemented to support developing neuro-pathways for reading (factors like how behind compared to peers, frequency, duration)? What cycle and data (e.g., 10 weeks, 20 weeks) can we expect to see results?

The metric for “more” is difficult to define for numerous reasons. First, we haven’t established there is a single, universally effective way to teach, which makes quantifying frequency, duration, and peer comparisons difficult to define. Part of this is related to lack of consistency in implementation of practices that have been established to be effective, limitations of research conducted to date, and the individual differences and experiences of children. However, you can compare metrics for “more” by examining interventions that have been shown to be effective in rigorous research studies (like randomized controlled trials), looking at how effective they are (i.e., effect sizes), the dosage (frequency and duration) that was provided, and the children that were included in the sample.

9. How many kids who receive balanced literacy programs end up in specialized reading intervention in higher grades? They’re generally not identified until much later due to the nature of the reading program.

While we don’t have specific data regarding the number of students who received balanced literacy and whether they eventually receive specialized reading intervention in the higher grades, our National Assessment of Education Progress (NAEP) data document a concerning trend with our Nation’s reading performance overall - only a third of American fourth grade students are proficient in reading. Similarly, only about a third of eighth grade students are proficient in reading. These NAEP findings indicate that there is a serious issue concerning how we currently teach reading, and this may include the use of some “balanced literacy programs.”

10. What approach do you recommend when a large percentage of your grade 4-8 students don’t have the appropriate phonics and decoding skills? Where do you start and what does grade level instruction look like?

For students in grades 4-8, phonics and decoding skills-related instruction can continue and focus on the skills required to read multisyllabic words. There’s an excellent Practice Guide from the Institute of Education Sciences, “Providing Reading Interventions for Students in Grades 4-9” (2022) that discusses what this type of instruction looks like and how the instruction should be delivered. Access to this Practice Guide is free and can be obtained by linking to the following: <https://ies.ed.gov/ncee/wwc/PracticeGuide/29>.



11. What does research say about teaching reading to older students with dyslexia and difficulties with executive function/emotional regulation?

Research on teaching reading to older students with dyslexia and difficulties with executive function/emotional regulation broadly suggests that older students with dyslexia can continue to benefit from specialized reading and writing instruction. Skills include:

- Identifying and breaking words into syllable types
- Reading multisyllabic words by blending the parts together
- Recognizing irregular words that do not follow predictable patterns
- Identifying the meanings of common prefixes, suffixes, inflectional endings, and roots.
- Breaking words into word parts and combining word parts to create words based on their roots, bases, or other features
- Understanding how and when to use structural analysis to decode unknown words

In addition, supports for cognitive processing, including executive function/emotional regulation, should be integrated into instruction, and not provided as a separate “cognitive processing/executive functioning” intervention per se. There is an excellent Practice Guide on Intensive Interventions by the Center on Instruction (2012) that summarizes the research on cognitive processing and provides examples of classroom application. Access to this Practice Guide is free and can be obtained by linking to the following:

<https://www.centeroninstruction.org/intensive-interventions-for-students-struggling-in-reading-and-mathematics>.

Other

1. Are future Speech Language Pathologists being educated on how they can help children who have dyslexia in reading (text comprehension, language and written expression, including executive functioning skills)?

Yes! Many programs now have dedicated courses and sections within School-Age Language courses that focus specifically on dyslexia and reading difficulties. ASHA provided a position statement on SLPs role in respect to literacy in 2001 ([Read the Position Statement](#)). There have also been special issues in our journals dedicated to literacy development. NCIL even hosted an ASHA Live Chat on SoR and how SLPs can be utilized ([Read the Transcript](#)).

Our knowledge of oral language skills allows us to be a useful member of the MTSS team in schools. See [Johnson, Smith, Terry \(2022\)](#) for an article on how SLPs can be leveraged within schools to make an impact from the prevention, assessment, and intervention of reading difficulties.