

Webinar – Read Their Minds: An Update on Dyslexia Research and Brain Based Remediation

Top 35 Questions from Attendees

- A) Problems with Reading
- B) Crossover Learning Issues
- C) Intervention & Assessments
- D) Other

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Problems with Reading

1. What are the most important pre-reading skills that children need to have in order to have a solid foundation for reading development?

Children need age level oral language skills, the ability to rhyme, name and recognize letters, and listen to books that are read orally to them.

2. Why do some students miss some words while reading?

There can be several reasons. Sometimes students skip over words because their visual tracking isn't smooth and coordinated. Sometimes they just don't recognize the word and trying to figure it out seems too difficult, so they skip over it or misread it. Sometimes, if in a hurry, they just misread it because they don't take the time to figure it out.

3. How does dyslexia affect an adult learner?

Adults with dyslexia often read very slowly, and avoid reading whenever possible. They might prefer texting, for example, where the messages are short on to the point. They also often have spelling problems and problems with written language so avoid writing.

4. Can you explain the difference between phonemic awareness and phonics?

Phonemic Awareness is the ability to break words down into speech sounds. It involves the ability to segment a word into its component sounds. So the word 'phone' for example, has five letters, but only three sounds f-o-n; Decoding depends on phonological awareness, but involves sound to letter mapping - so to read phone I need to know what makes the /f/ sound, to the long /o/ sound, and the /no/ sound of that word. But in another word like 'some' makes a different sound, the /uh/.

5. Where does word retrieval difficulty / oral fluency fit into dyslexia?

Rapid Naming - RAN problems are often seen in children diagnosed with dyslexia. From a neuroscience perspective, it appears that the rapid naming is not a separate problem but rather a manifestation of the general processing issues associated with dyslexia - but the jury is out on that.

6. How can we use these strategies with teens or adults? Can we adopt these Fast ForWord strategies to other real world examples?

Teens and adults have used Fast ForWord very successfully. There is also a program specifically designed for adults.

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8. I've got a year 8 with a 5th year grade of reading He is frustrated withdrawn, what could I do? Can't do it in class since he feels ashamed.

Yes, by year 8 the students often have given up. Could he do Fast ForWord? It would work wonders for him. If not, have you tried audio books where he listens and reads along. That might be a way to get him going. He will eventually need intensive intervention of some kind though.

9. Is "Reading impairment" equivalent to "dyslexia" in terms of diagnosis or does it imply a lesser degree of severity?

Answered during the presentation - the terms are used differently in different settings, but often reading impairment implies a less severe reading problem than dyslexia or a reading problem due to environmental differences.

Crossover Issues

10. My son is having trouble with speech. I am confident it is dyslexia but not sure how to help him before it gets to reading issues. He is 4 and a half.

The student can do Reading Readiness on Fast ForWord. Speech problems will not be an issue and it might help sort out speech versus reading issues.

11. I'm surprised that the incidence of dyslexia in identical twins is so relatively low, Particularly if they were living in the same family.

68% is considered very high for a polygenetic disorder like dyslexia. Researchers believe it is not higher because of other factors like epigenetic effects. As an example, my husband is an identical twin and his brother was a master musician, my husband a skilled athlete - same genes but different skill sets.

12. Can a child with hearing impairment be diagnosed with dyslexia?

Yes. Hearing Impairment by itself increases the risk of oral language and reading problems. But, the brain differences seen in dyslexia are distinctive and can occur with hearing impairment, but not necessarily.

13. What is the best way to deal with impulse control in reading and reading comprehension?

Impulse control is trainable. There are several excellent programs designed to train it including the Fast ForWord programs where impulse control is trained within the context of reading exercises. Another solidly designed and research program is Activate.

14. What is the difference between learning disability and dyslexia?

According the DSM 5, dyslexia is one type of learning disability.

15. I would like to know if a student can be ADHD can be diagnosed with dyslexia since some characteristics are similar.

Yes, There is nothing about the brain that says a child cannot have two challenges at the same time. But, as you say, some of the problems seen in dyslexia (like problems with impulse control) are also seen in ADHD. I have seen children misdiagnosed as ADHD because reading is so difficult and they have trouble attending in school, but in other settings, they shine. That is why I recommend including a program like Fast ForWord in an intervention so that any attention problems can be addressed. If the child still has problems with self control after Fast ForWord a psychologist may diagnose ADHD.

16. How do we approach reading difficulties impacted by trauma?

Wow, an excellent question. That is a talk in and of its own. Trauma and toxic stress are associated with specific differences in brain maturation that affect reading and school achievement. I just finished a chapter on that in a new text book I am writing. These are a couple of good articles: Schwabe, L., Joëls, M., Roozendaal, B., Wolf, O. T., & Oitzl, M. S. (2012). Stress effects on memory: an update and integration. *Neuroscience & Biobehavioral Reviews*, 36(7), 1740-1749. Schwabe, L., Wolf, O. T., & Oitzl, M. S. (2010). Memory formation under stress: quantity and quality. *Neuroscience & Biobehavioral Reviews*, 34(4), 584-591.

17. The district I work in has a significant number of English Language Learners (ELL) students. Often, as the Speech and Language Practitioner, I am advocating for services based on phonological deficits I see in these students early on but am getting pushback due to the students' ELL status. There are also issues in environmental factors such as exposure and socioeconomics. Is there research you can point me to that attempts to address this specific subpopulation of students so that I can more effectively get these students services?

Wow, an excellent question. That is a talk in and of its own. ELL combined with Low SES are associated with specific differences in brain maturation that affect reading and school achievement. I just finished a chapter on that in a new text book I am writing. There is evidence that auditory perceptual training - especially speech sound discrimination is very helpful for ELL children. Also, the language training you can provide is important. As for research there is a ton - do a google scholar search with ELL language and learning issues.

Assessments

18. Is there a test you like best for Phonological working memory?

I like the CTOPP.

19. What screening tools are available to identify students in grades K &1?

This article has some good suggestions: Sanfilippo et al 2019 Reintroducing Dyslexia: Early Identification and Implications for Pediatric Practice.

20. Could delayed speech in children be related dyslexia?

Yes, it often is. Many children with delayed speech have difficulties learning to perceive speech sounds.

21. Early intervention, how early can we start interventions? What does it look like pre reading?

This article has some good suggestions: Sanfilippo et al 2019 Reintroducing Dyslexia: Early Identification and Implications for Pediatric Practice, Also around 4 years of age Reading Readiness from Scientific Learning is an excellent program to use.

22. When working with a student with dyslexia one-on-one, what are the top 3 strategies you would recommend a teacher use to build reading/writing skills?

Answered during presentation. Strategies vary by age and strengths and weakness of the child. I prefer to individualize instruction based on each student's strengths and weaknesses.

23. Can you speak to testing results where a student scores average in phonological awareness, but poor in phonological memory.

Yes. Good question. When we discussed individual differences, I was really referring to the issue you discuss. I have seen children who can do PA tasks very well but have trouble holding sound sequences in mind. When reading aloud, they might sound a word out, then two sentences later forget the word when seen again. This is discussed in the research article I reviewed during the talk.
Jaffe-Dax, S., Frenkel, O., & Ahissar, M. (2017). Dyslexics' faster decay of implicit

memory for sounds and words is manifested in their shorter neural adaptation. Elife, 6, e20557.

24. What areas of the WIAT 3 would be a good screen for Dyslexia?

Listening Comprehension, Oral Expression, Word Reading Pseudoword Decoding, Reading Comprehension, Oral Reading Fluency, Alphabet Writing Fluency, Spelling, Sentence Completion.

25. Is there an upper age limit for the program to work effectively?

No, it has been used successfully with adults as old as 70 years who have brain injuries and learning disabilities. However, there is another adult program, Brain HQ designed specifically for adults.

26. Is there a quick screening tool that general education can use before submitting kids to special education testing?

This is a good link for you.
<https://vector.childrenshospital.org/2017/04/30-minute-dyslexia-screening-test/>

27. If people fall through the gap and reach adulthood with reading impairment /dyslexia, are there particular tests you would recommend?

I would recommend a full battery by a good neuropsychologist for an adult because there may be several mitigating factors - depression, anxiety, attention problems, in addition to a dyslexia that would need to be sorted out and treated appropriately.

28. Is there research surrounding dyslexia in students with moderate to severe disabilities? Does an intellectual disability override a diagnosis of dyslexia?

Usually yes. In most definitions of dyslexia, the diagnosis specifies ruling out intellectual disability.

Other

29. What is the role of different auditory pathways in this way in dyslexia?

There is some good research in this area. See for example Canale et al (2014) The Role of the efferent auditory system in developmental dyslexia.
<https://www.sciencedirect.com/science/article/abs/pii/S0165587613006629?via%3Dihub>

30. So, I've heard that there are different parts of the brain engaged when reading on-line v/s paper. Is this the case? I'm wondering about the transfer of skills from on-line interventions to more hands on.

I know of no research indicating different parts of the brain engaged when reading online. There is research from the American Medical Association discussing differences in tablet vs. book reading in terms of parent -child interaction. Although the American Academy of Pediatrics recommends parent-child joint engagement with digital media, recent evidence suggests this may be challenging when tablets contain interactive enhancements. See: Munzer, T. G., Miller, A. L., Weeks, H. M., ciroti, N., & Radesky, J. (2019). Parent-Toddler Social Reciprocity During Reading from Electronic Tablets vs Print Books. JAMA pediatrics.

31. What is Fast Forward?

A neuroscience designed technological reading intervention.
www.scientificlearning.com

32. Is this an advertisement for Fast Forward? What about the evidence from this source that says that Fast Forward is a controversial therapy:

http://www.onlinedigeditions.com/publication/?i=59673&article_id=625328&view=articleBrowser&ver=html5#%22issue_id%22:59673,%22view%22:%22articleBrowser%22,%22article_id%22:%22625328%22

Fast ForWord has been viewed as controversial among individuals who advocate for specific types of interventions and some who are opposed to technological interventions. But the actual independent controlled research in neuroscience labs and schools around the world is very solid. All of the research, including studies that found mixed results is included on the website: www.scientificlearning.com

33. What research is there regarding students with dyslexia and their ability to read signs and symbols, specifically pertaining to reading music?

Interesting question. Actually, the research I cited in the talk Jaffe-Dax, S., Frenkel, O., & Ahissar, M. (2017). Dyslexics' faster decay of implicit memory for sounds and words is manifested in their shorter neural adaptation. *Elife*, 6, e20557. This article actually discusses your question.

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35. Where can I test Fast ForWord for my students?

Please contact admin@neuronlearning.com and we will send you demos and information based on your requirements.