

Help and Hope for Dyslexia and Reading Challenges: Treating the Root Cause

PowerPoint slides are available at:



Who is Nectar?

The Nectar Group is an education company dedicated to helping students overcome learning challenges so that they can reach their full potential. With our assessment-driven process, we use scientific tools to evaluate and pinpoint the root causes of learning difficulties. Then, we create custom solutions utilizing cognitive neuroscience to resolve those root issues.

We optimize learning and take a holistic approach to improving school, work, and life performance by providing:

- Therapeutic interventions that are grounded in neuroscience to treat the causes of learning difficulties for all ages
- K-12 and collegiate level academic tutoring in reading, writing, and math to build solid content and prepare students for college and beyond
- Study skills and executive function coaching to ensure successful student outcomes
- One-to-one educational services via educational consulting, individualized schooling, and homeschool support

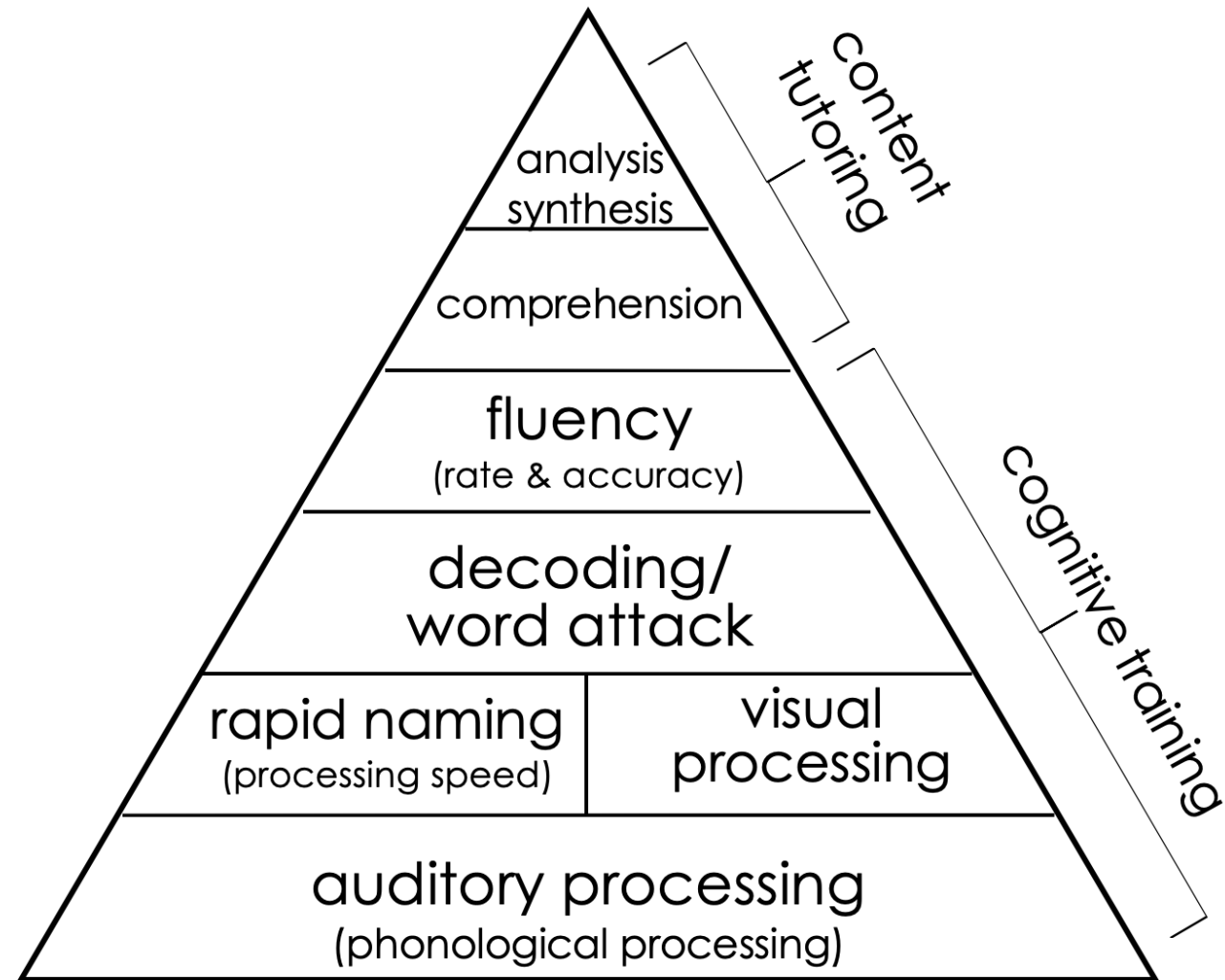


Who We Work With:

Nectar works with:

- Clients ages 6 and up
- All types of diagnoses: ADHD, dyslexia, Autism Spectrum, Struggling Learners, Gifted Learners, Twice Exceptional, TBI
- Students learning through homeschool, public, private, charter, and hybrid schools
- Nectar provides all services to clients around the world via our unique videoconferencing tele-education services

Elements of Effective Reading



What are other types of reading challenges besides dyslexia?

- Fluency (processing speed)
- Comprehension (logic, visual processing, and memory)
- Vocabulary (memory)
- Analysis - deep reading (logic)
- Lack of enjoyment of reading (visual processing and fluency)

What is dyslexia?

- The most common type of reading problem; rooted in phonological/auditory processing. Dyslexia is characterized by difficulties with accurate and fluent word recognition caused by a deficit in the phonological component of language.
- Another way to think about this is individuals with dyslexia have difficulty processing and manipulating the sounds in a spoken language.



What are the characteristics of dyslexia?

The deficiencies are in:

Phonological Processing

- phoneme awareness
- phonological working memory
- phonological blending or phonetic decoding

and

Processing Speed

- rapid automatized naming

Try to decode the following:

The bottob line it thit it doet exitt, no bitter whit
nibe teotle give it (i.e. Hecific leirning ditibility, etc).
In fict, iccording to Tilly Thiywitz (2003), itt trevilence
it ictuilly one in five children, which it twenty tercent.

How did that feel?

When you were decoding, did it seem slow?

Did you comprehend what you were reading?



The bottom line is that it does exist, no matter what name people give it (i.e. specific learning disability, etc.). In fact, according to Sally Shaywitz (2003), its prevalence is actually one in five children, which is twenty percent.

Effective Readers:

- Recognize a word in 1/20th of a second
- Read 150-250 words per minute
- Immediately recognize tens of thousands of words
- Learn new words very quickly; require between one and four exposures before it becomes permanently stored for immediate retrieval
- Don't forget the words they learn- this is called orthographic memory (written word storage) i.e. When you see the word "pear" versus "pair"- brain instantly can connect the spelling to item/image



Fluency: Why Does it Matter?

Grade Level	Oral Rates of Reading (words per minute)	Silent Rates of Reading (words per minute)
3	70-120	90-120
4	90-140	110-140
5	100-150	140-170
6	110-150	160-190
9-12		Average 275

Why is it important to improve a student's reading rate? Well let's do a little math to see how a slow reading rate affects middle and high school students. Notice that a typical 6th grader reads 160-190 words per minute. But Student A reads at a rate of 60 words per minute. You have 10 pages of homework to read. Each page has 500 words (think social studies, science, literature textbook). How long will it take you to complete your homework?

Student A	Student B
10 pages = 1 hour 23 minutes	10 pages = 18 minutes
20 pages = 2 hours and 38 minutes	20 pages = 36 minutes

A young boy with short brown hair, wearing a blue short-sleeved shirt, is sitting at a desk. He is looking down at a book or paper in front of him. An adult's hand is resting on his right shoulder, providing support. The background is bright and slightly blurred, suggesting an indoor setting with natural light. The text "Causes of Dyslexia and Reading Disorders" is overlaid in the center of the image.

Causes of Dyslexia and Reading Disorders

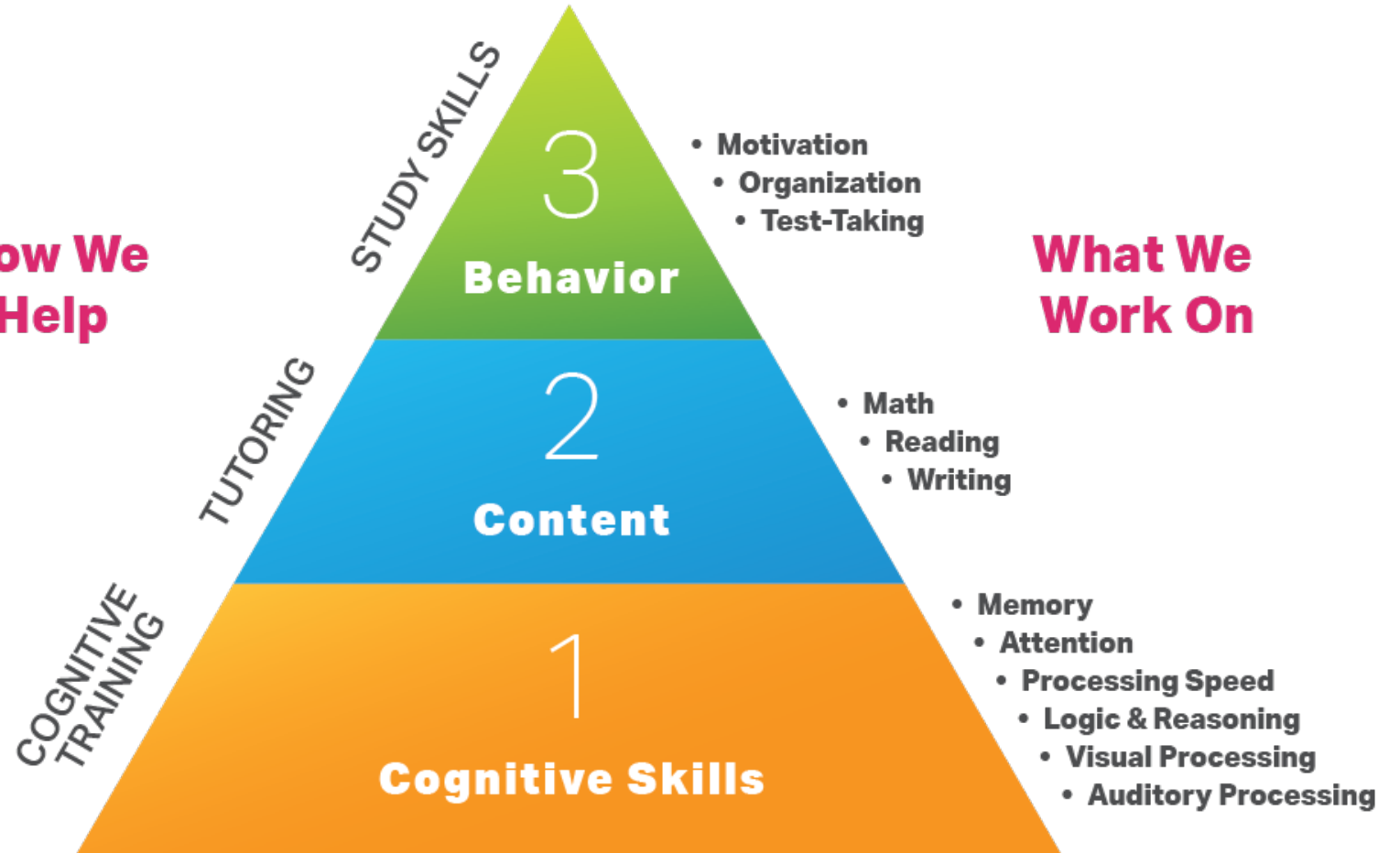
Potential Pyramid™

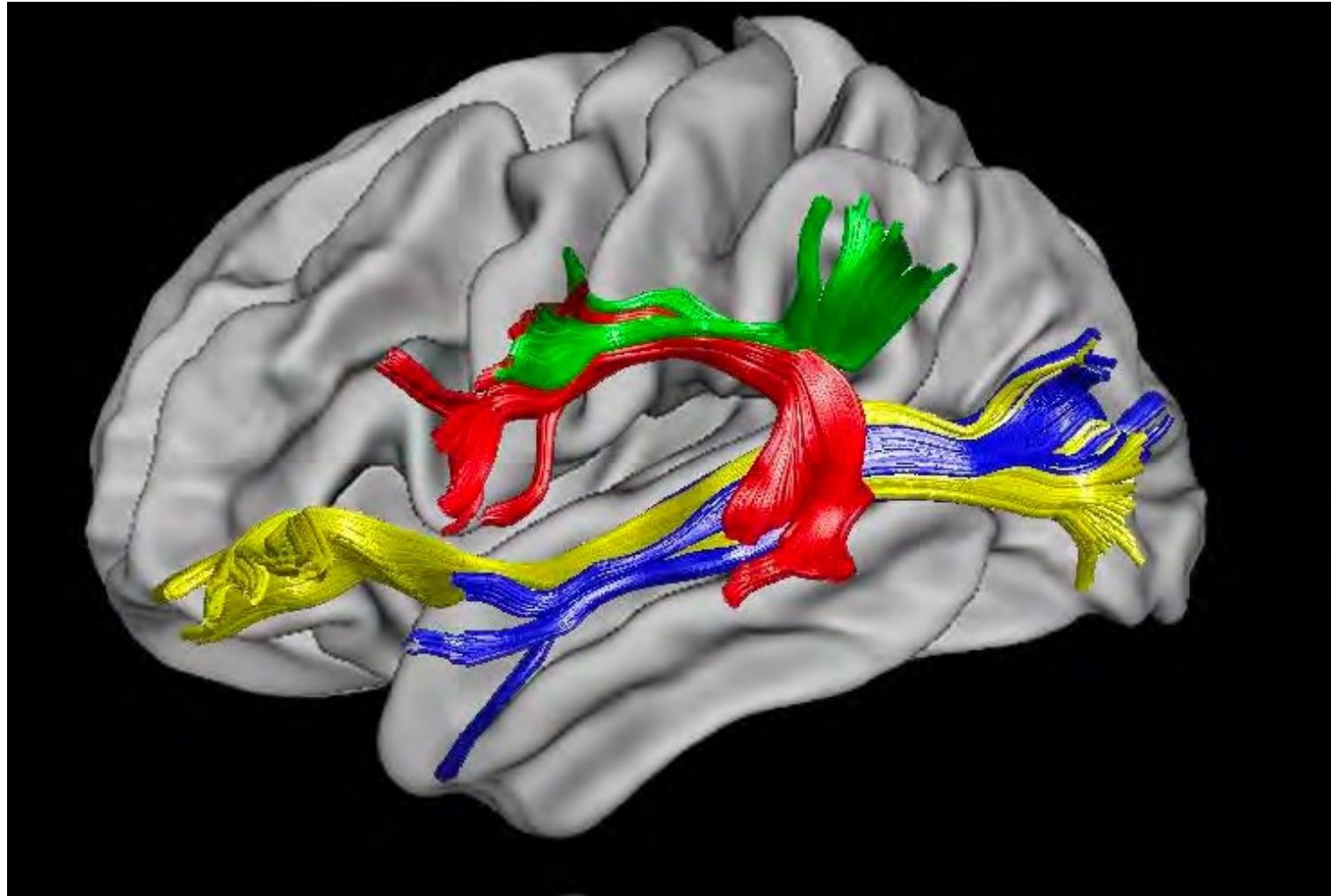


**Reaching
Learning &
Reading
Potential**

**How We
Help**

**What We
Work On**

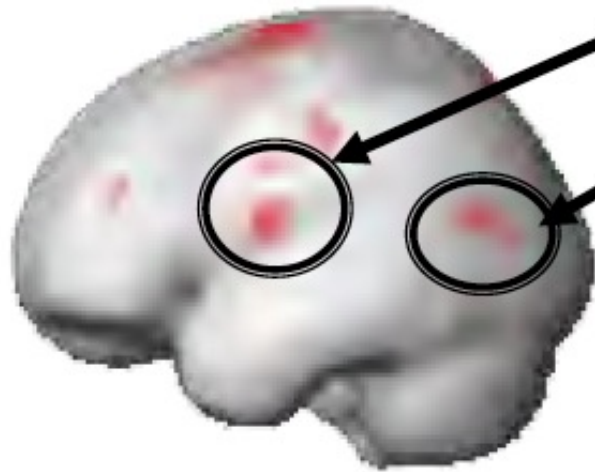




**Neural
Networks :
Typical
Reading
Network**

What does dyslexia look like?

Control



Frontal
AND
Temporo-
parietal

Example:

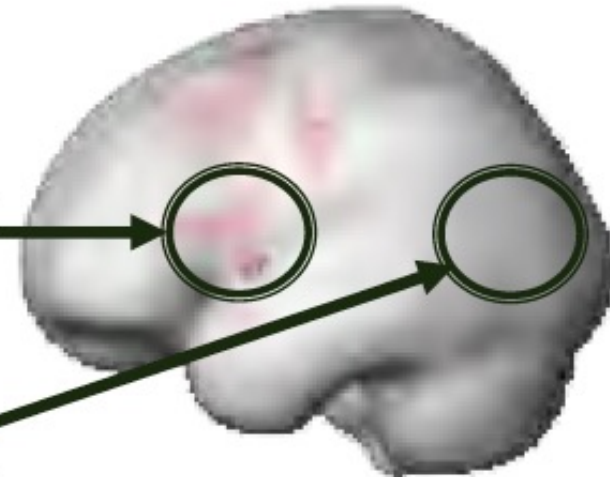
B D = Rhyme

B K = Do Not Rhyme

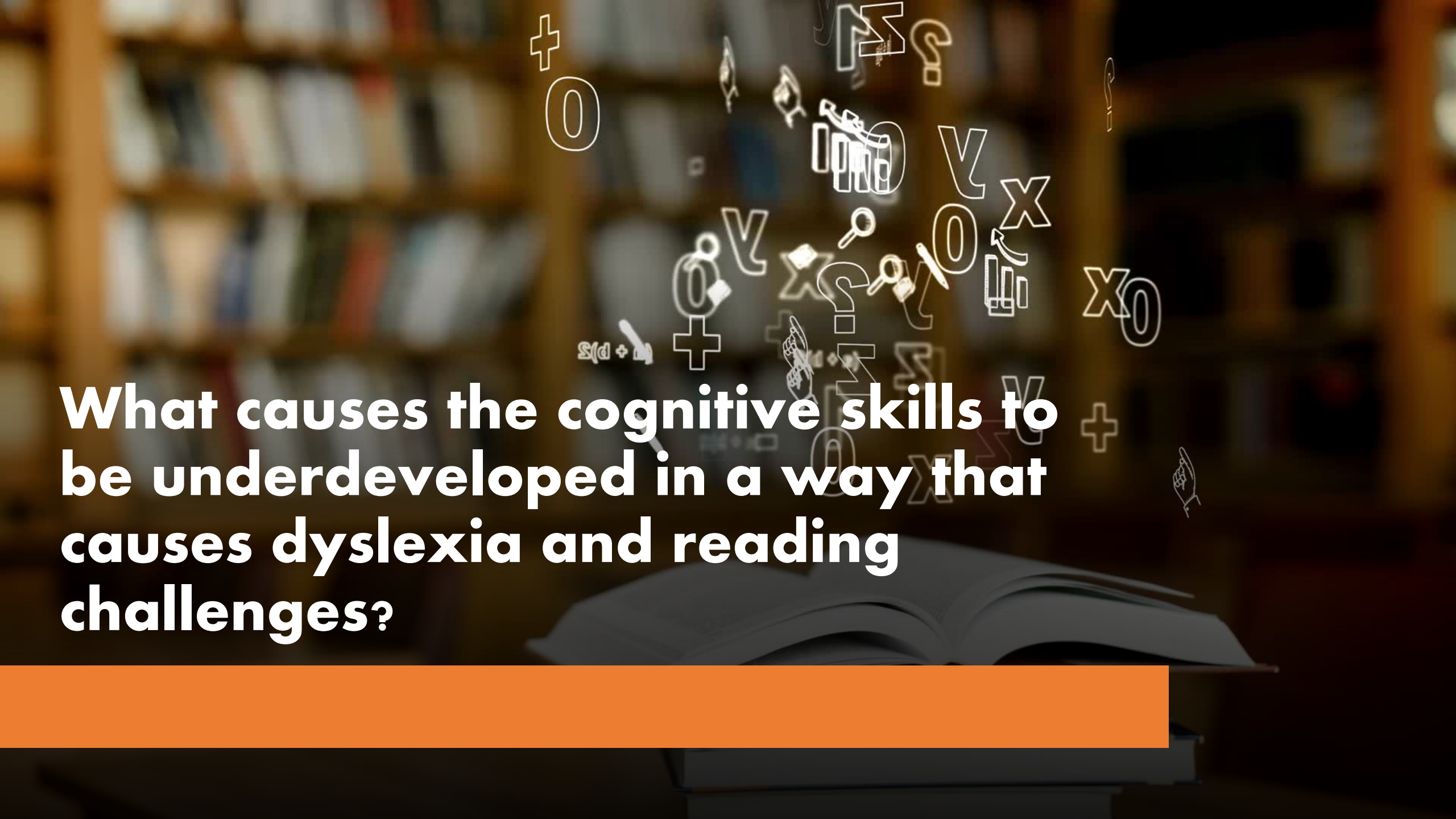
n= 45

8 weeks intervention

Dyslexia



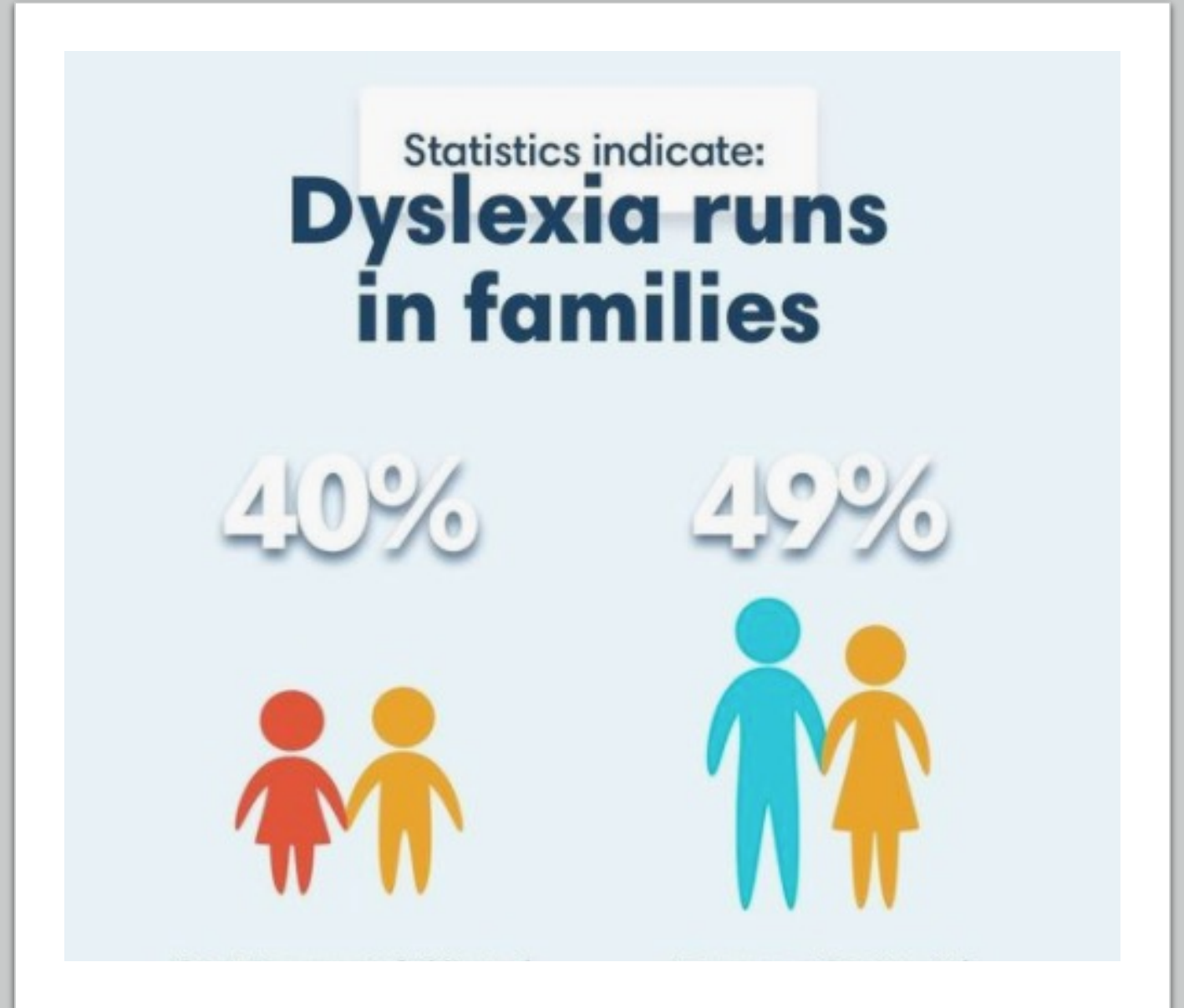
Frontal
but NOT
Temporo-
parietal



What causes the cognitive skills to be underdeveloped in a way that causes dyslexia and reading challenges?

Genetics

- Dyslexia does have a genetic component; between 25 and 50% of those born to a parent with dyslexia will have it as well. In cases where children are diagnosed with dyslexia, between 33 and 50% of parents are diagnosed after their child.





Environmental Factors

- Birth weight of less than 1,500 grams increases risk by 2-3 times
- Exposure to substances in-utero
- Ear infections early on-frequent ear infections can impair hearing, depriving the developing brain of the correct hearing of sounds – known as "glue ear"



Diagnosing Dyslexia

How to Diagnose Dyslexia

Professionals who can assess and diagnose formally:

- Clinical or Neuropsychologists
- Some speech pathologists

The assessment commonly includes:

- Phonological Processing test
- Nonsense word decoding (word attack)
- Test of reading accuracy
- Test of reading fluency
- Spelling test
- Verbal and nonverbal ability
- Other cognitive functions

Nectar Services: Assessments

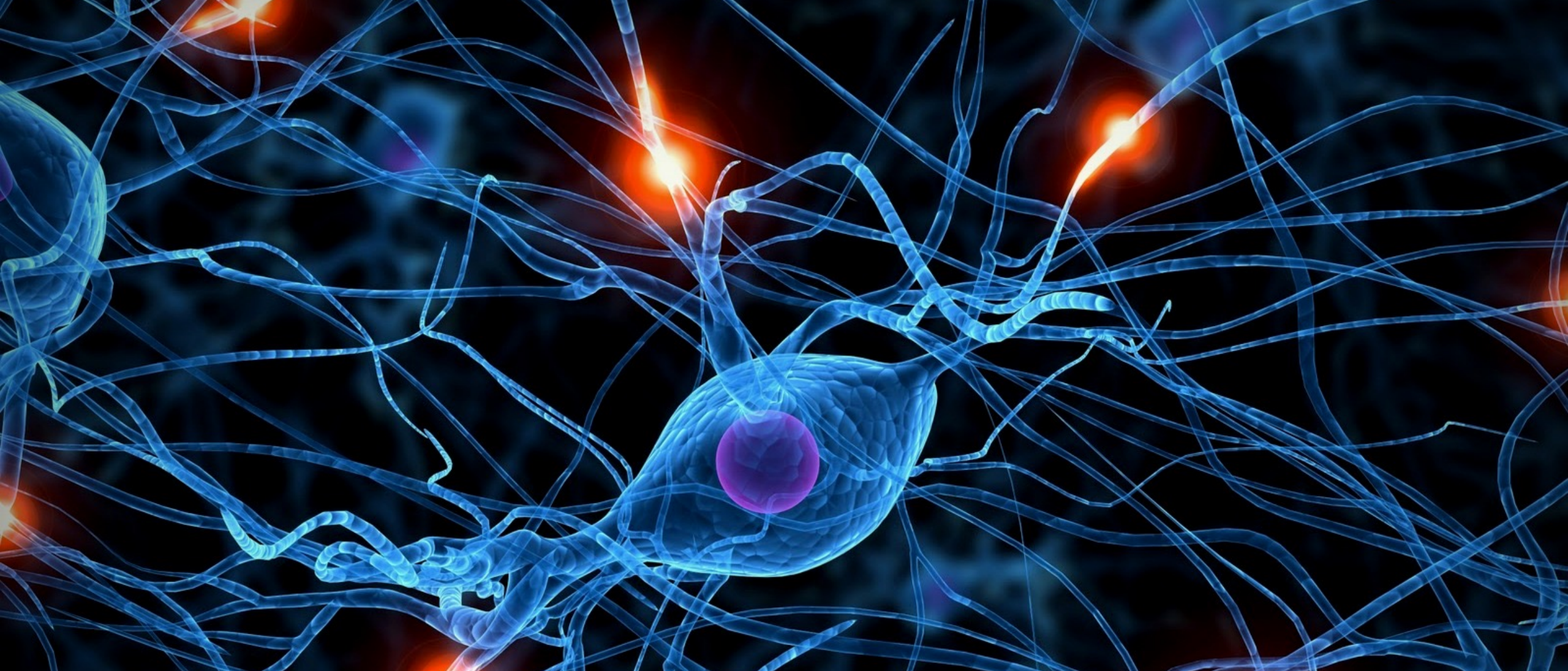
By The Nectar Assessment Team (Multi-disciplinary team: clinical and neuropsychologist, reading specialist, educational consultant, integrative health & wellness coach)

- Full Psychoeducational Testing
 - Dx. ADHD, Dyslexia, LD, etc.
- Comprehensive Cognitive Assessments
- Academic Testing
- Diagnostic ACT/ SAT





Methods for Treating Dyslexia



Neuroplasticity



Neuroplasticity

HEBB'S LAW: Neurons that fire together, wire together (1949)

“Your brain – every brain- is a work in progress. It is ‘plastic’. From the day we’re born to the day we die, it continuously revises and remodels, improving or slowly declining, as a function of how we use it (Merzenich).”

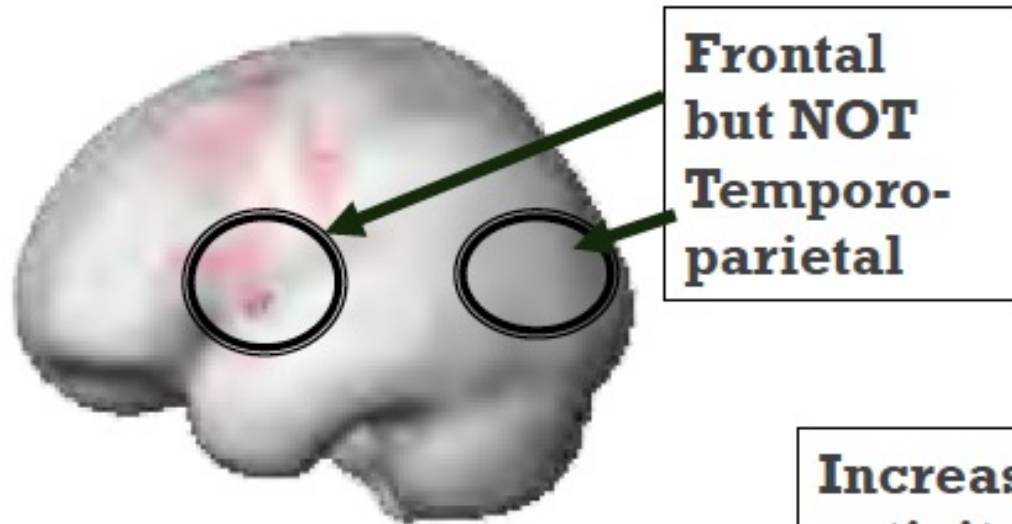
Cognitive Training

- **Cognitive assessment to pinpoint specific cognitive strengths and weaknesses**
- **One-to-one intensive coaching that targets cognitive deficits**
 - **Works by stressing a weak area through mental exercise, encouraging the brain to build new neural networks**
 - **Neurons that fire together, wire together! (Hebb's Law)**
 - **Corrective measure that improves the primary underlying causes of dyslexia: weak cognitive skills (Auditory Processing, Processing Speed, Visual Processing)**



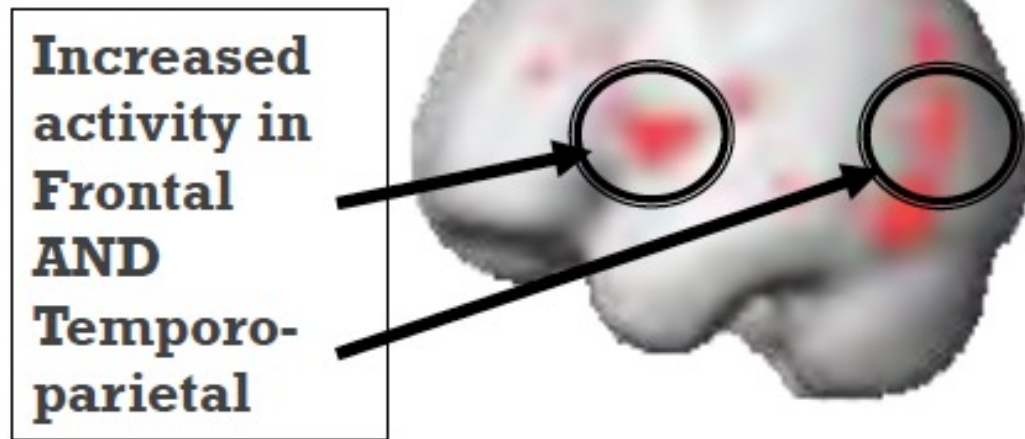
Neural Effects of Intervention:

Pre-Intervention



After training, metabolic brain activity in dyslexics more closely resembles that of typical readers.

Post-Intervention



Readingworks

Sound to code approach - which treats the underlying cognitive deficits that cause dyslexia

Covers the 44 sounds in the English language

Important because that's how language acquisition actually occurs (think of how babies learn and mimic sounds first)

One-to-one intervention, customized based on test results and severity

4x per week, 50 minutes each session, in order to have maximum effectiveness (frequency and intensity)

Depending on the case, the average is 10-32 weeks of intervention

97% retention rate of skills gained 3 years post intervention with no further treatment

Intervention for dyslexia must be:



Explicit: Includes clear explanations and demonstrations, carefully designed guided practice, independent practice and review to promote retention



Systematic: Sequencing that ensures students have the prerequisite knowledge and skills to learn the next or more complex skills



Intensive: Dose, duration and frequency



Multisensory: Simultaneous use of multiple sensory pathways to enhance memory

Saying a sound while tracing a letter

Skywriting

Saying a word, watching the tongue in the mirror



Tutoring

Elements of Effective Tutoring

- **Systematic and direct instruction in:**
 - **Vocabulary and concepts**
 - **Reading comprehension strategies**
 - **Fluency training**
 - **Enriched language experiences: listening to, talking about, and telling stories**



WHAT PARENTS CAN DO

Recognize Warning Signs

Observe

Observe your child's language development. Be on alert for problems in rhyming, pronunciation, and word finding

Observe

Observe your child's ability to connect print to language

Know

Know your family history

Use

Complete Dyslexia pre-screeners such as the one found at [nessy.com](https://www.nessy.com) (ages 5-7)

Resources for Home



“Reading Reflex” book
by
Carmen McGuinness

Games that support reading and phonological processing: Big Boggle, Scrabble, Scrabble Slam Cards, Spontaneous, Zingo Sight Words, What’s Gnu?, Last Letter Card Game, Pathwords

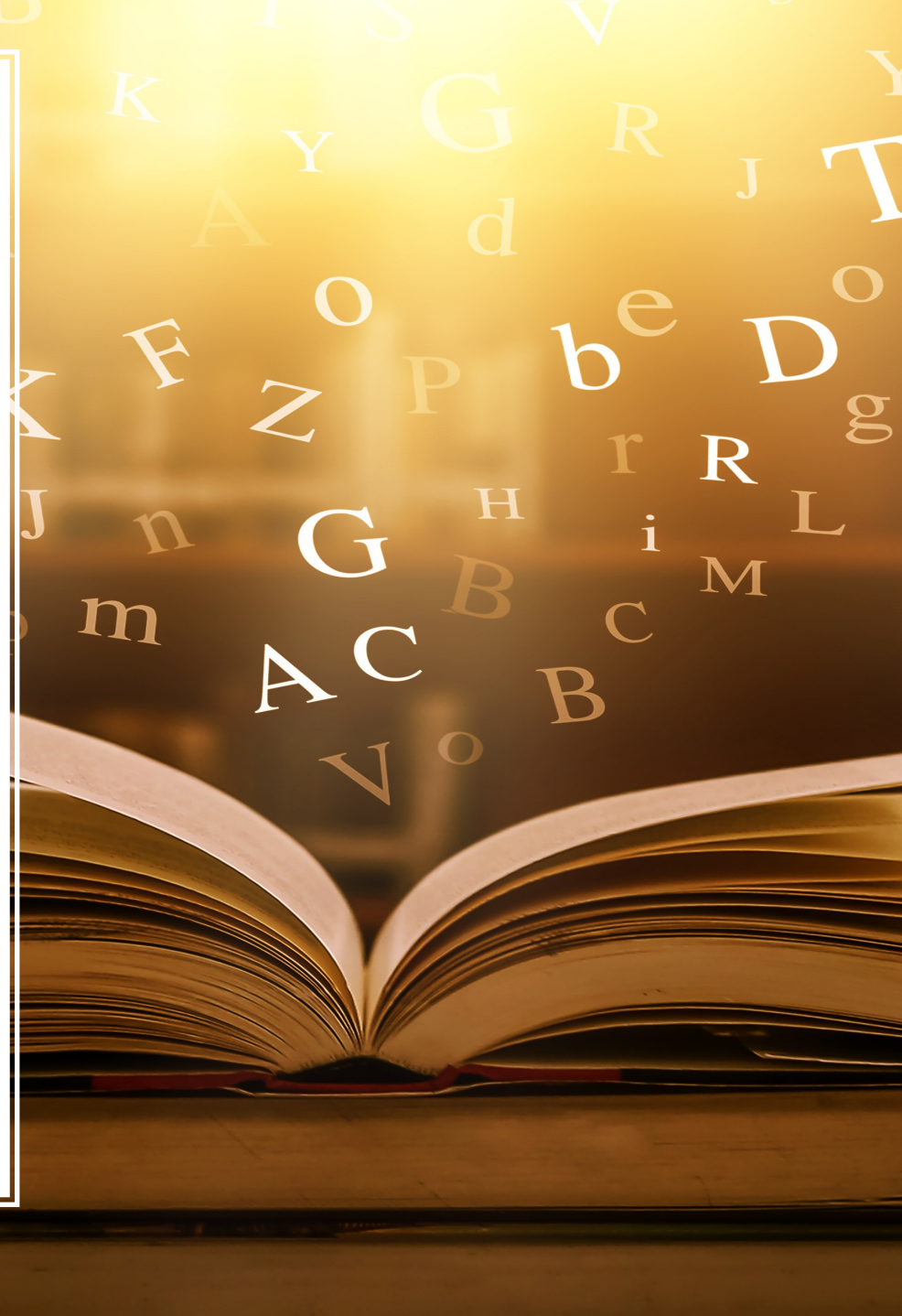
University of Florida Literacy Institute (UFLI) Foundations Manual and Program

For younger children:
shaving/whipped cream writing,
racetrack writing

Scavenger Hunt Word Games,
Flashlight Find, Nerf Gun Hunt

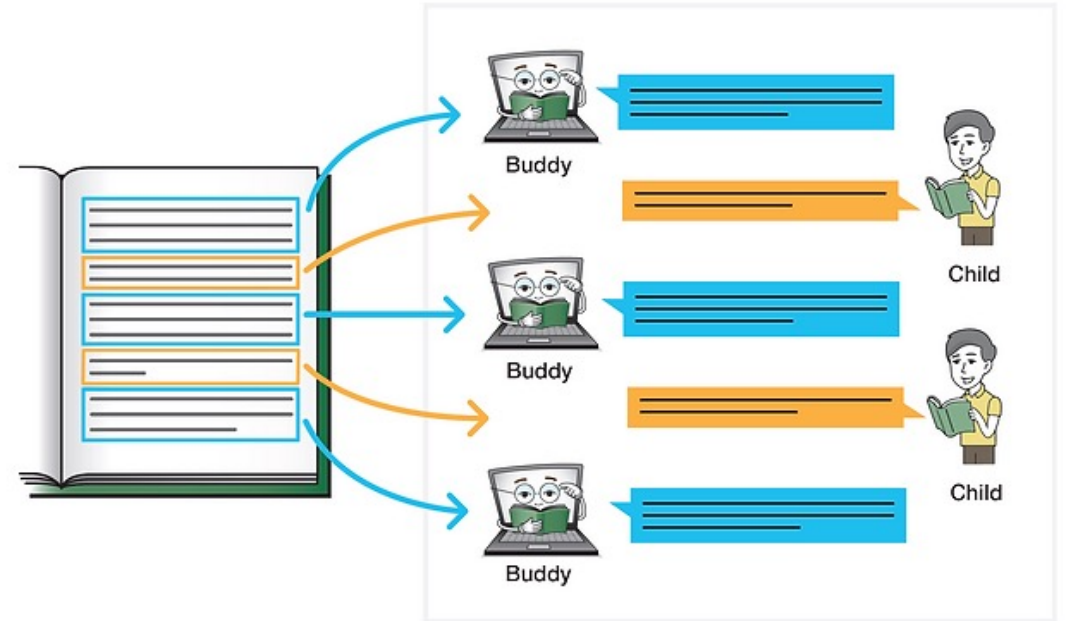
How to improve fluency at home:

- Improve knowledge of high-frequency and sight words
- Give students varied opportunities for hearing texts:
 - Parents reading
 - Audiobooks
 - Peers/Classroom
- Have students reread selected texts
- Prompt, don't correct: Our greatest inclination when non-fluent readers read aloud is to correct or tell them the word they struggle on.
- Instead ask:
 - Can you divide the word into syllables and sound it out?
 - Do you see a part of the word you recognize?
 - What word would make sense at this point?
 - Can you blend the separate sounds of the word?



Practice, Practice, Practice!

- Alternate Reading with a Parent/ Audiobook while tracking
- Buddy Books App (2nd grade- HS)



Accommodations that Help Homeschool Parents with Instruction



Use of audiobooks



Extended time, especially with reading and writing assignments



Assistive technology for writing and spelling



Do not count spelling errors against them; grade on content, not on spelling or fluency



Pre-teach new vocabulary

Audiobooks: Balance

- Audiobooks are an accommodation; they are a fantastic way to SUPPORT a struggling reader while still build their skills like comprehension, vocabulary and love of stories
- They do not stimulate the phonological processing center of the brain UNLESS a child is reading alongside (following the text)
- So it is important that we are providing the support, while ALSO working on the underlying skills with intervention AND practicing with daily reading as well.





Parent Education

Overcoming Dyslexia

Sally Shaywitz, M.D.

Equipped for Reading Success

David A. Kilpatrick, Ph.D.

When Kids Can't Read, What Teachers Can Do

Kylene Beers

Locating and Correcting Reading Difficulties

Ward A. Cockrum and James L. Shanker

Next Steps: Assess

Full Comprehensive Cognitive Assessment-

Non-diagnostic, but can answer if student has indicators of dyslexia so they can begin treatment

Psychoeducational Battery- Full diagnostic assessment

Outside Test Review- Recommendations

Nectar Services:

- Assessments
- Cognitive Skills Training to treat dyslexia and other learning challenges
- Tutoring/Nectar Academy/Homeschool Support
- Study Skills and Executive Function Coaching



Thank you so much for your time!

Contact us at:

Phone: 855-221-4888

Email: GetAnswers@TheNectarGroup.net

Web: www.TheNectarGroup.com

