

Overcoming Dyslexia and Reading Challenges



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

What do you know about dyslexia?

All kids who reverse letters or numbers have dyslexia.

Dyslexia can be outgrown with age.

People with dyslexia will never learn to read well.

More boys than girls are affected by dyslexia.

Dyslexia is innate, incurable and permanent.

Dyslexia cannot be diagnosed until third grade.

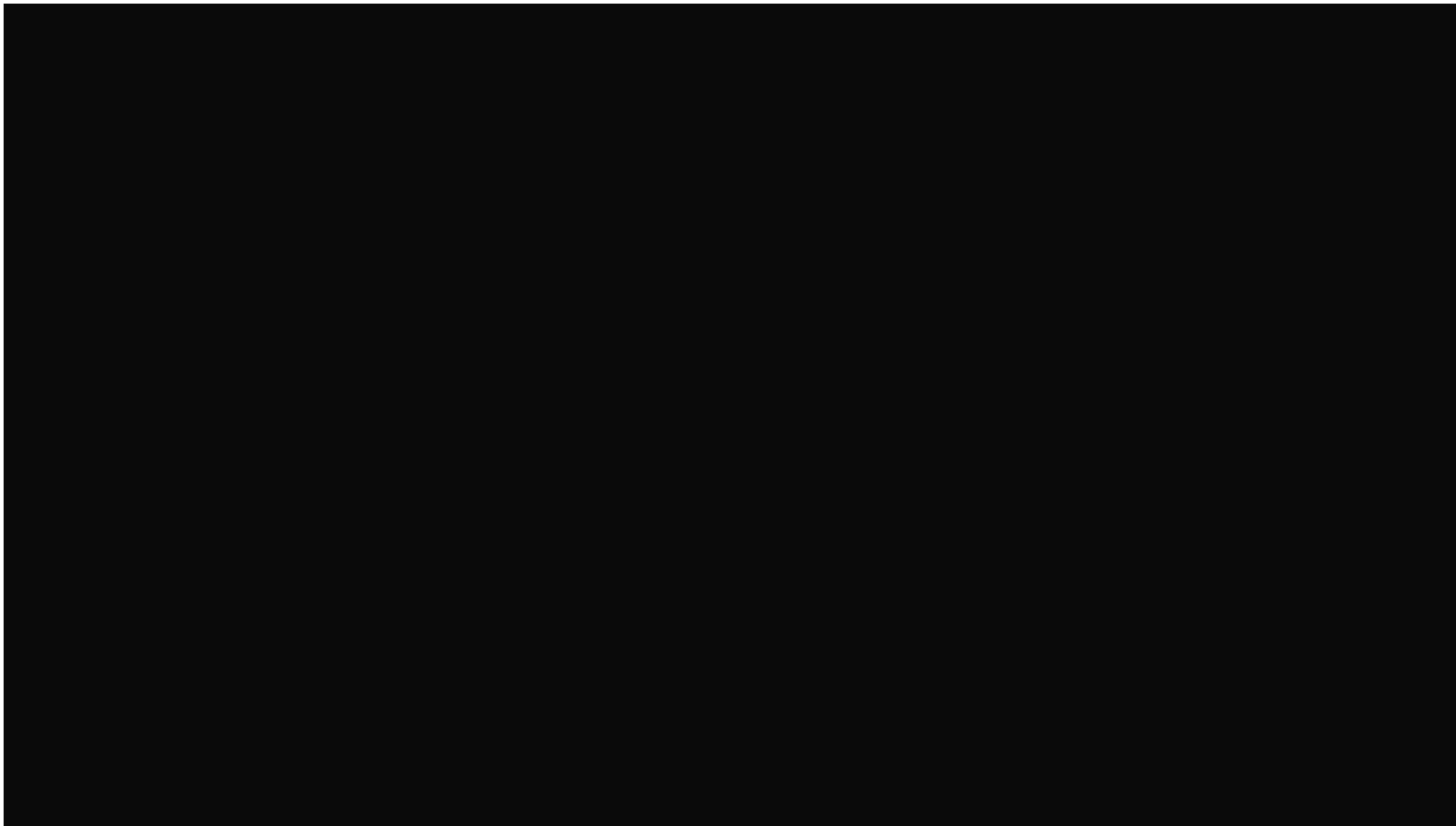
Reading out loud can help a student with dyslexia improve in their areas of weakness.

What is dyslexia?

- The most common type of reading problem; rooted in phonological/auditory processing. The deficiencies are in phoneme awareness, rapid automatized naming, phonological working memory, phonological blending or phonetic decoding. This is treated by rewiring the brain in each of these key areas.
- Dyslexia is characterized by difficulties with accurate and or fluent word recognition caused by a deficit in the phonological component of language.
- Individuals have difficulty processing and manipulating the sounds in a spoken language.

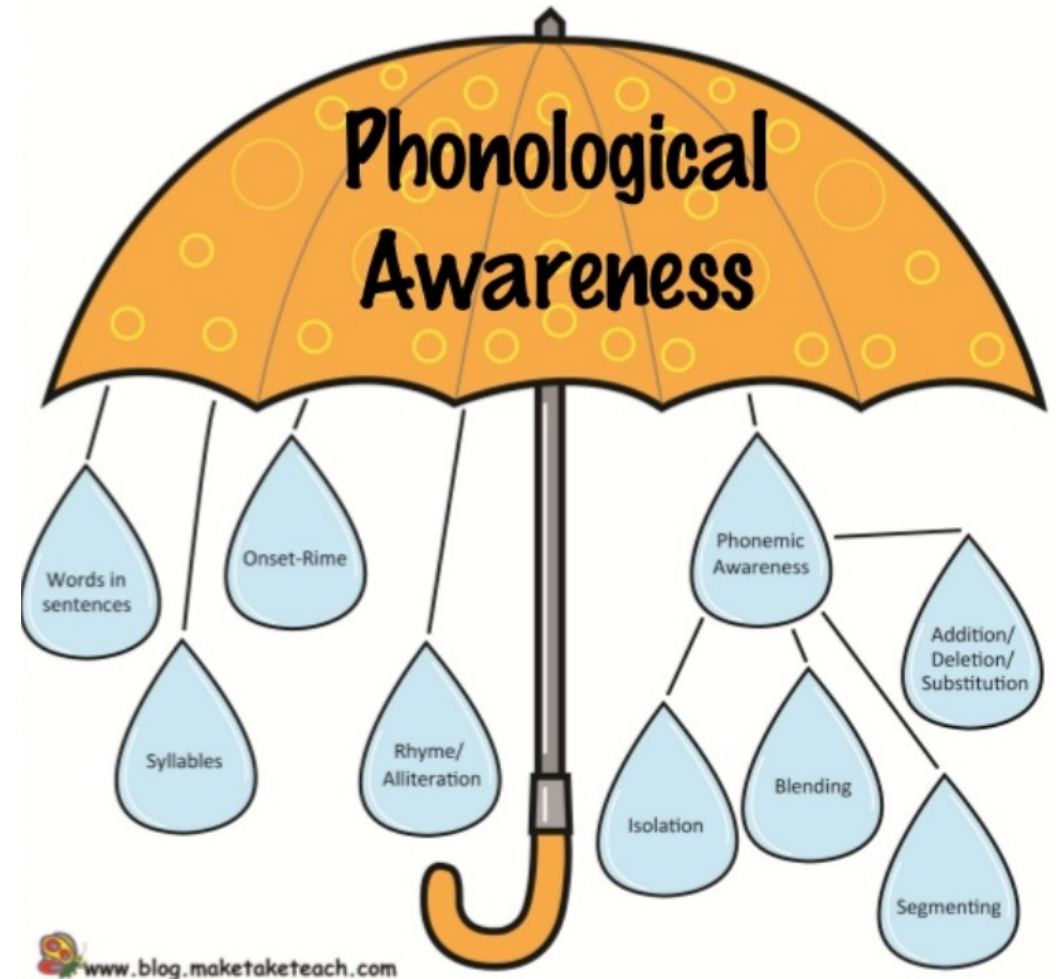


What is dyslexia?

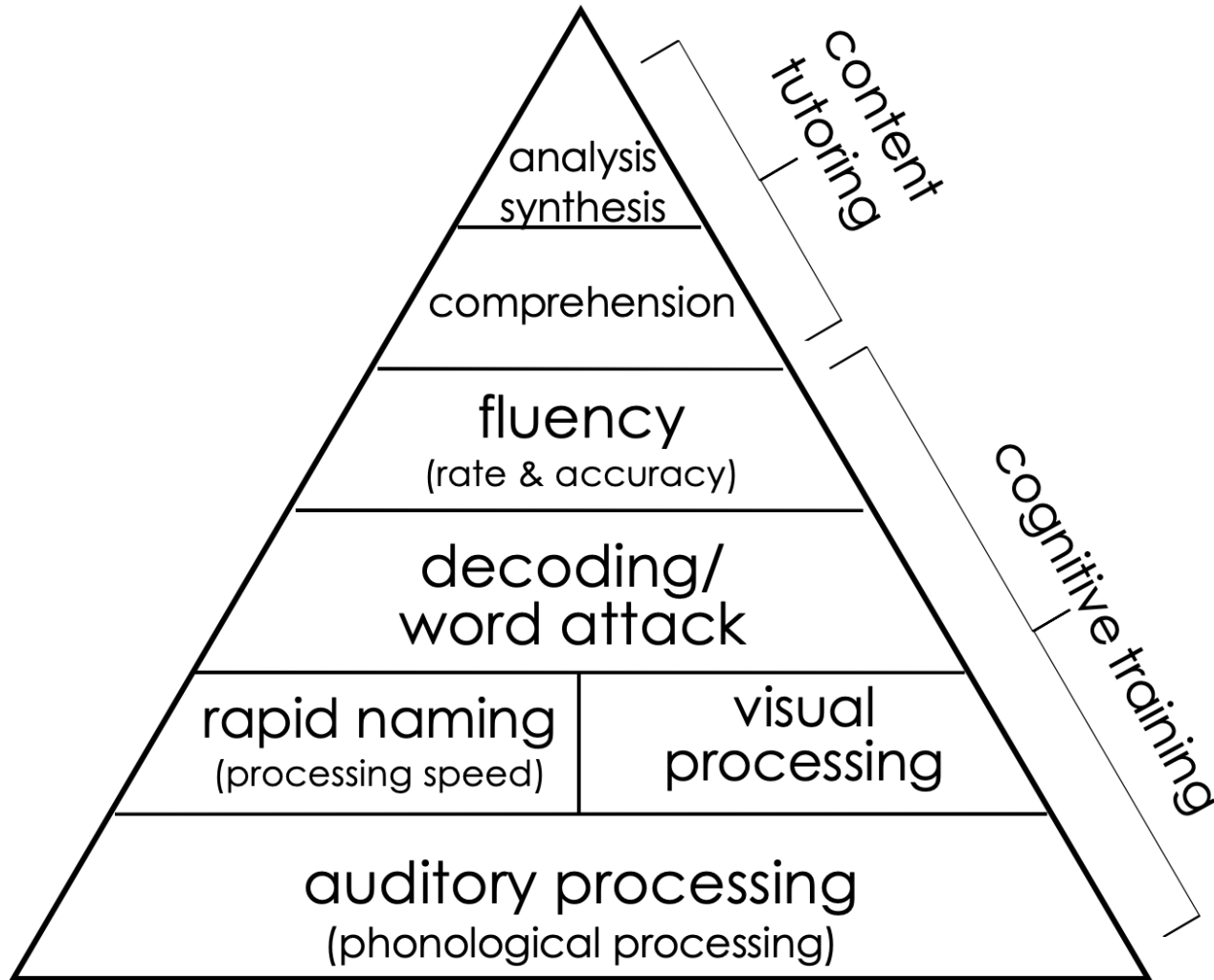


Understanding Phonological Awareness

- Phonological Awareness = The ability to recognize and manipulate the sound properties of spoken words, such as syllables, initial sounds, rhyming parts, and phonemes.
- Phoneme Awareness = The ability to recognize and manipulate individual phonemes in spoken words
- Ex: p,b,d and t in pat, pad, bat and bad

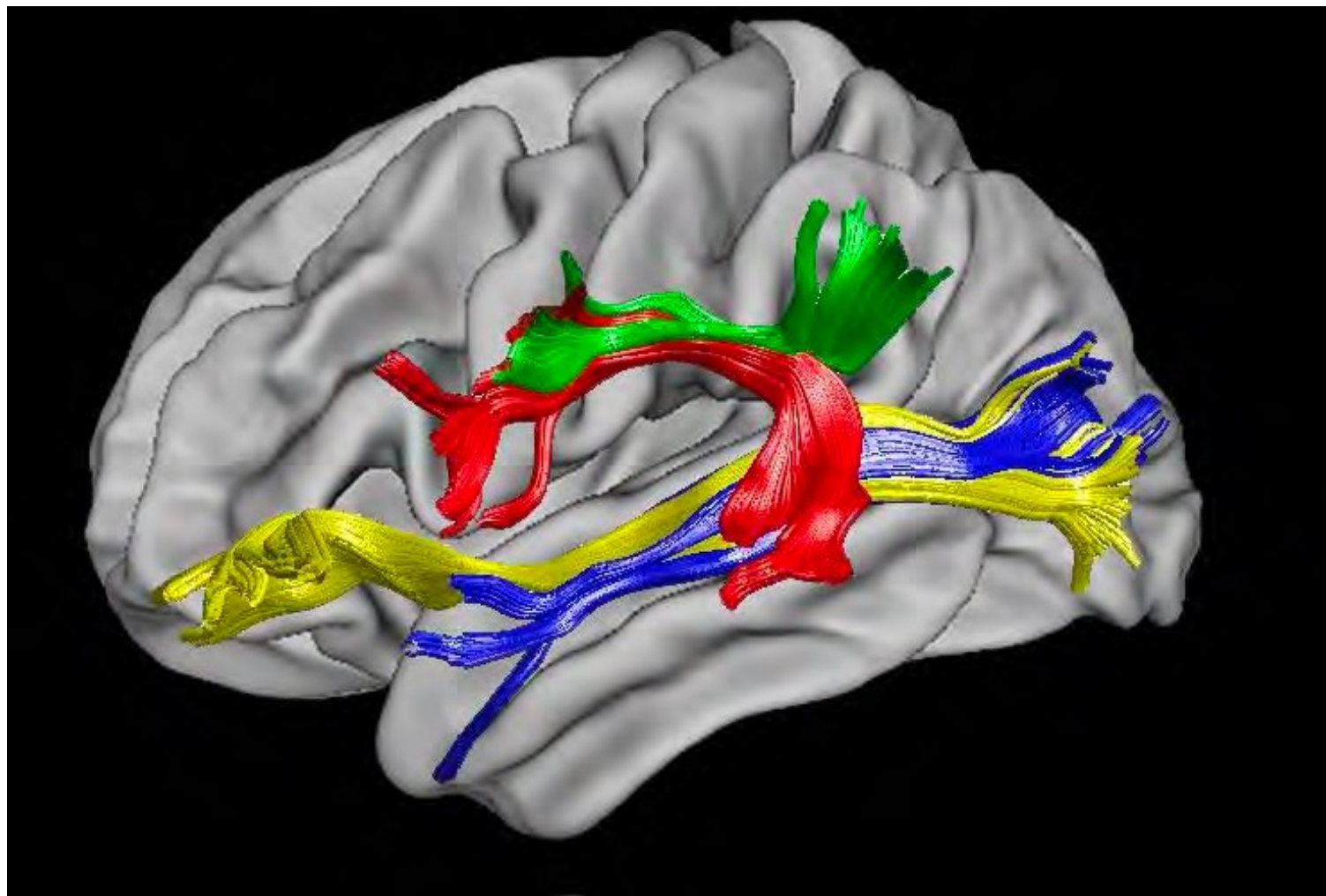


Elements of Effective Reading



Other types of Reading Challenges:

- Fluency
- Comprehension
- Vocabulary
- Analysis (deep reading)
- Lack of enjoyment of reading



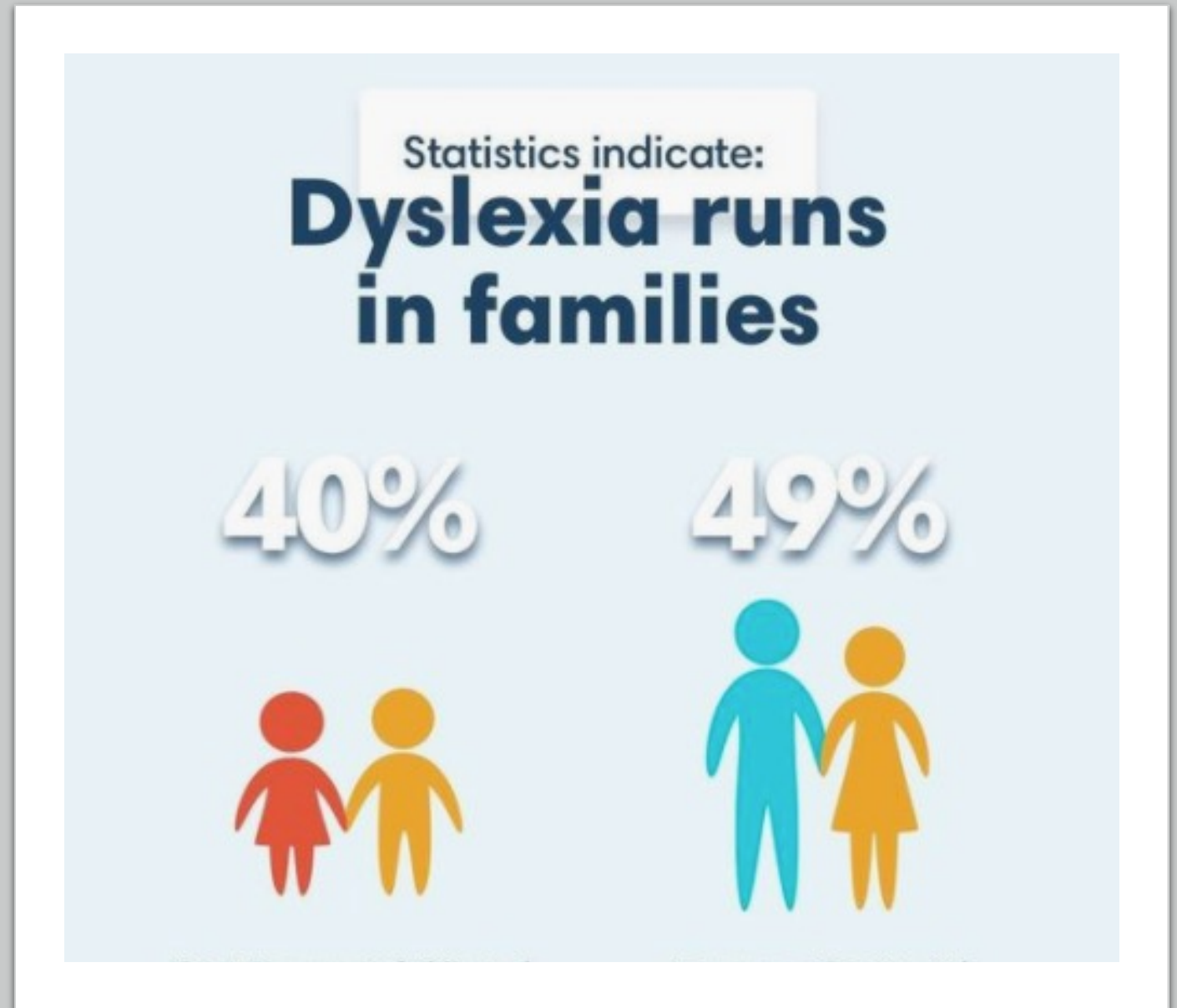
**Neural
Networks :
Typical
Reading
Network**

A young boy with short brown hair is sitting at a desk, looking down at a notebook. He is wearing a blue short-sleeved shirt. An adult's hand is resting on his right shoulder, providing support. The background is bright and out of focus, suggesting a window. The text "Causes of Dyslexia" is overlaid in the center of the image.

Causes of Dyslexia

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

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?

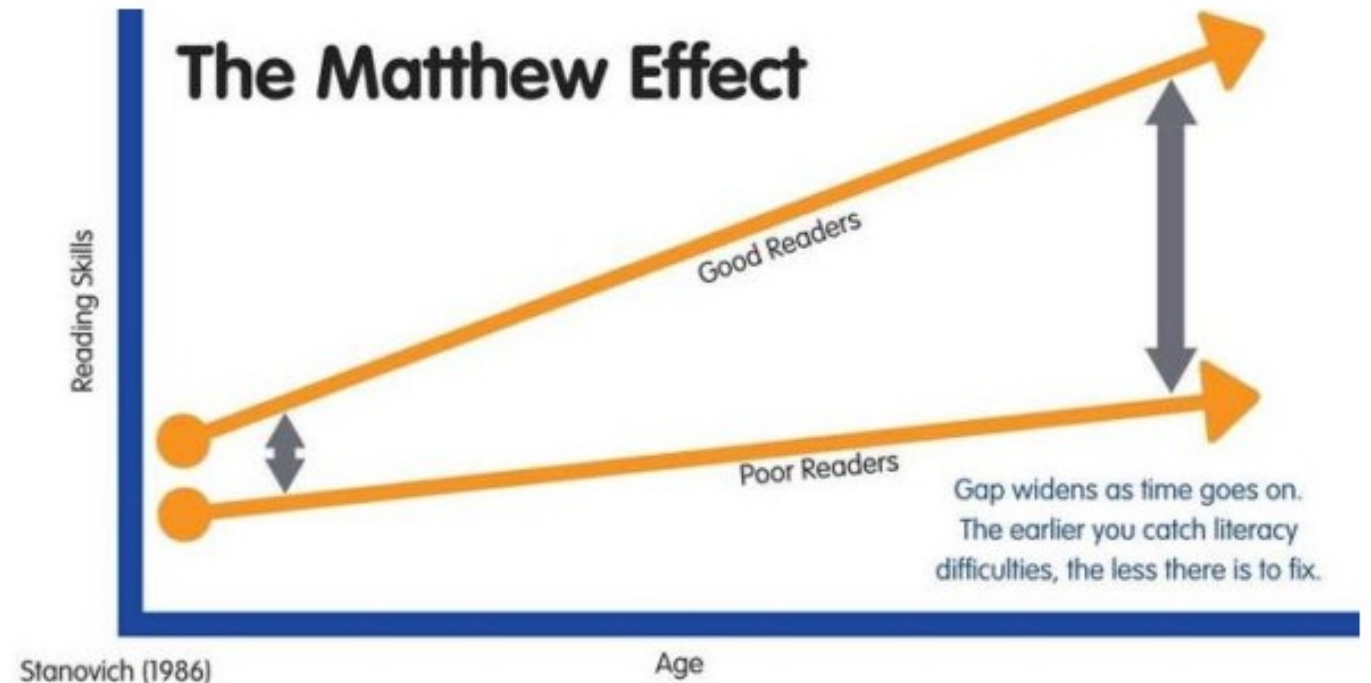
Grade Level	Oral Rates of Reading (words per minute)	Silent Rates of Reading (words per minute)
3	70-120	90-120
4	90-140	110-140
5	100-150	140-170
6	110-150	160-190
9-12		Average 275

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

Should My Child be Evaluated for Dyslexia?

“The human brain is resilient, but there is no question that early intervention and treatment bring about more positive change at a faster pace than an intervention provided to an older child. And then there is the erosion of self-esteem that accrues over the years as a child struggles to read. (Shaywitz)”



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

Potential Pyramid™



**Reaching
Learning &
Reading
Potential**

**How We
Help**

COGNITIVE
TRAINING

TUTORING

STUDY SKILLS

3

Behavior

- Motivation
- Organization
- Test-Taking

**What We
Work On**

2

Content

- Math
- Reading
- Writing

1

Cognitive Skills

- Memory
- Attention
- Processing Speed
- Logic & Reasoning
- Visual Processing
- Auditory Processing



Neuroplasticity



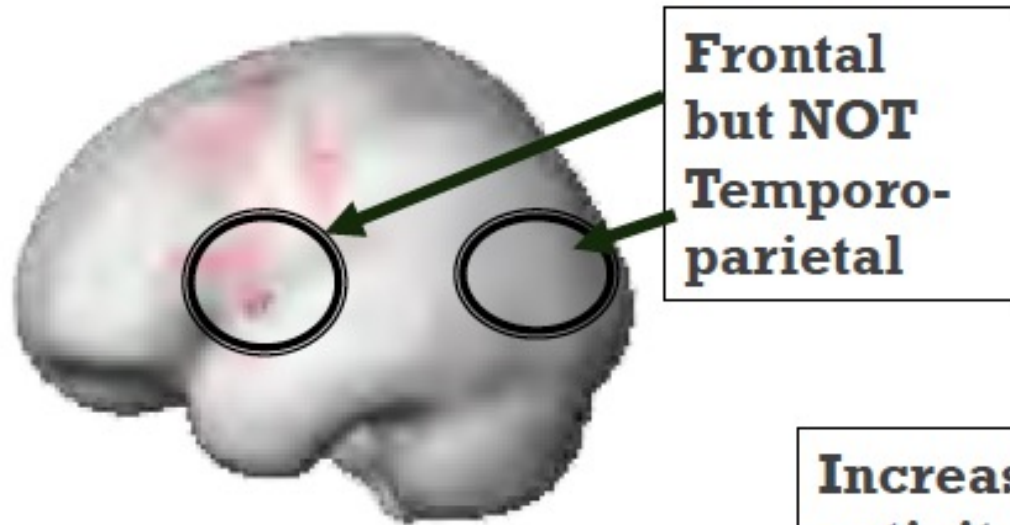
Neuroplasticity

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).”

Neural Effects of Intervention:

Pre-Intervention



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

Post-Intervention

Increased
activity in
Frontal
AND
Temporo-
parietal

This figure shows a lateral view of a human brain with metabolic activity highlighted in red and green. Two black circles are drawn on the brain: one in the frontal region and one in the temporo-parietal region. Two black arrows point from the text box to the frontal circle and the temporo-parietal circle, indicating increased activity in both regions.

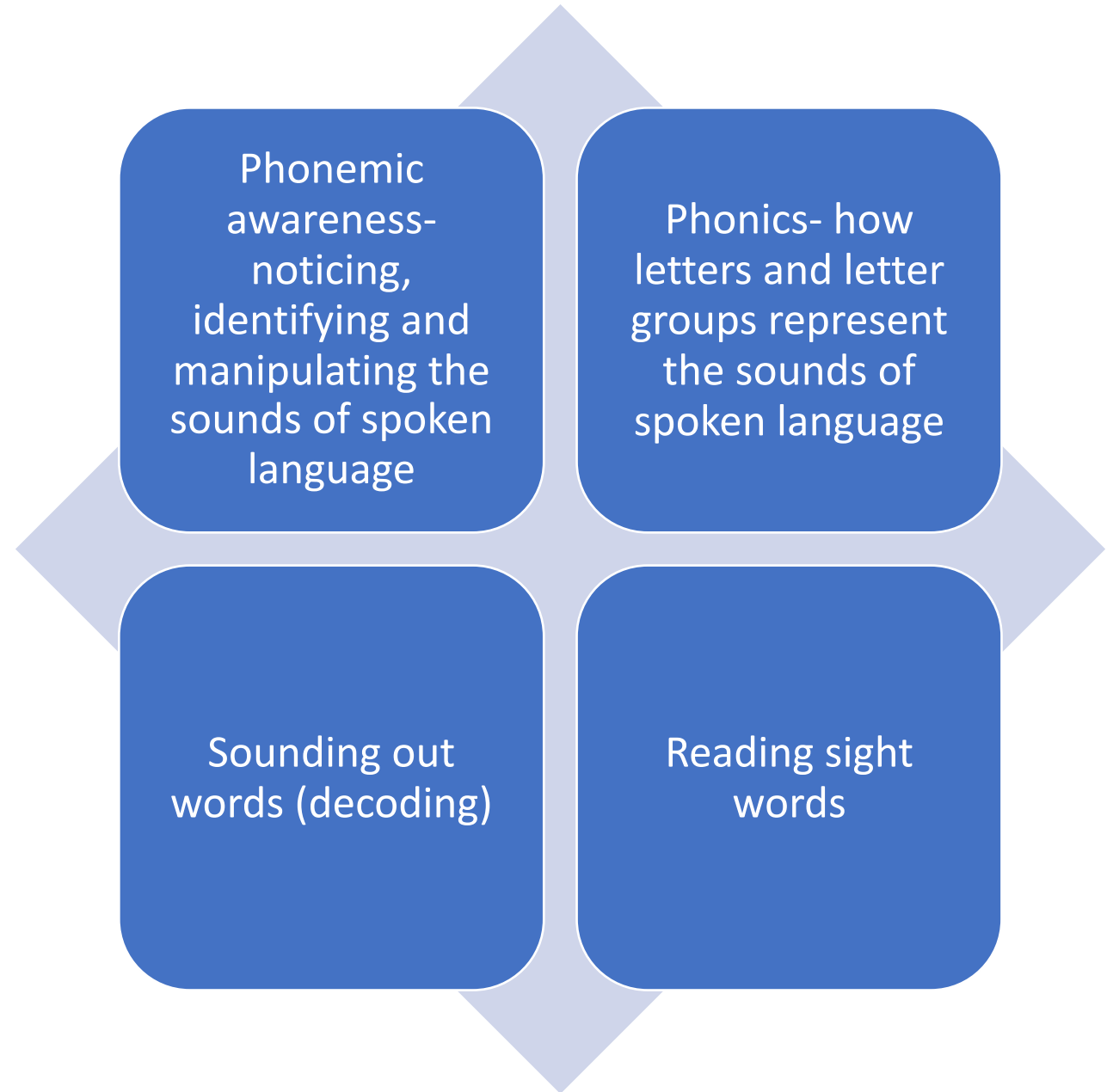
Cognitive Training

- 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)



How is Dyslexia Treated?

Sound to Code
Intervention
through
Cognitive Training



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



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

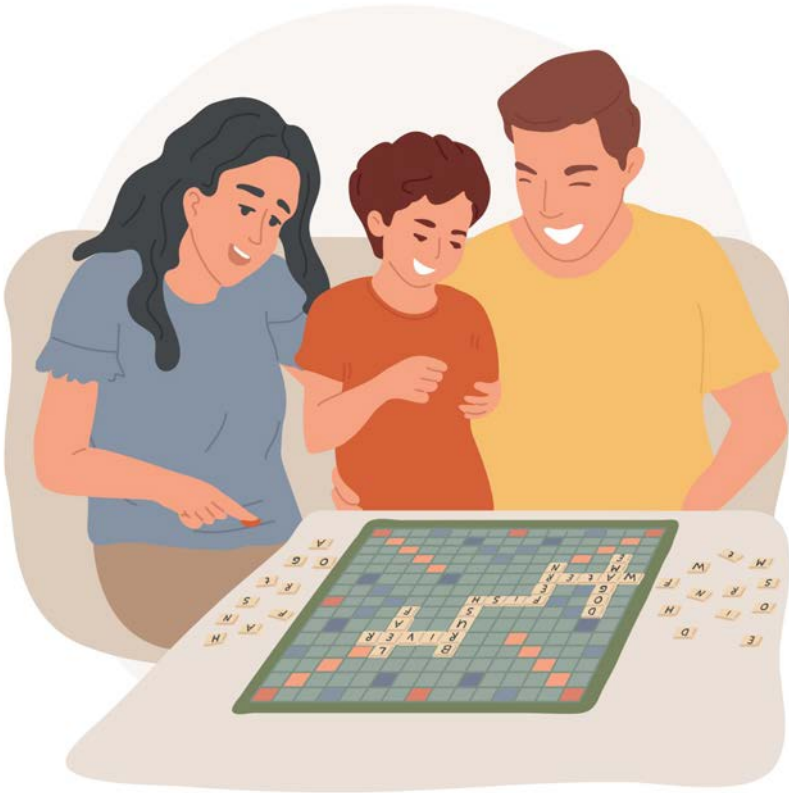
Use the Reading Observation Chart to assess your child's reading

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?



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

Alternate reading with a parent

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

Listening Therapies (for certain children): Tomatis Method and Integrated Listening Systems

Scavenger Hunt Word Games, Flashlight Find, Nerf Gun Hunt

Accommodations that Help Homeschool Parents with Instruction



Use of audiobooks



Extended time, especially with reading and writing assignments



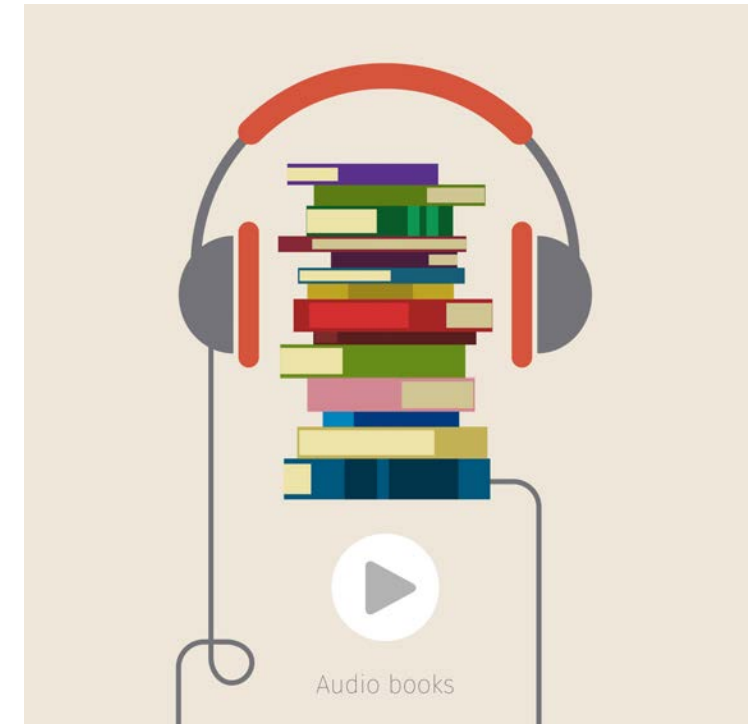
Assistive technology for writing and spelling



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



Pre-teach new vocabulary





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!

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