

Understanding the Struggling Reader

Presented by:

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Giving Credit Where Credit is Due

Reid Lyon
Louisa Moats

Presentation Objectives

1. To promote a better understanding of what dyslexia is and what it is not;
2. To underscore the importance of early identification of children who have reading difficulties;

Presentation Objectives

3. To emphasize the need of providing the proper forms of remediation when children first begin to struggle with reading;
4. To provide early warning signs of a reading difficulty;

English is Complex

How do you pronounce,

“ghoti?”

English is Complex

“Ghoti” could also be “Fish”

Gh as /f/ in rough

O as /i/ in women

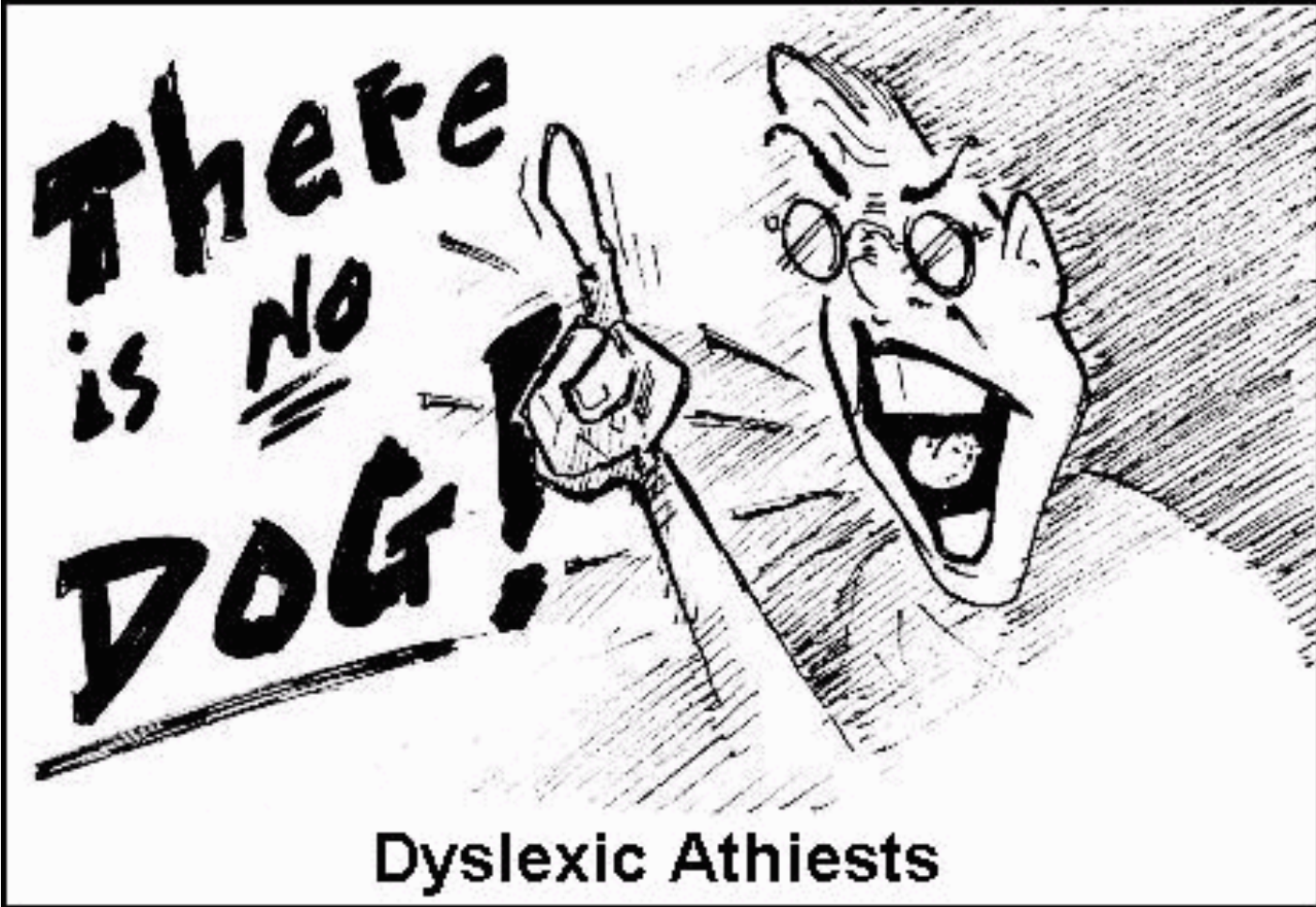
Ti as /sh/ in –tion (relation)

Reading Failure: A National Problem

- Approximately 75% of all people with a learning disability have difficulty reading and spelling.
- It is estimated that 70% of the prison population cannot read above a fourth grade level.
- Most disturbing: some southern states are planning for future prison growth by studying illiteracy rates of middle school students.

Reading Failure: A National Problem

- An analogous situation to health care:
- A few dollars for primary prevention versus tens of thousands of dollars (or more) for tertiary, critical care.



Dyslexia: Myths

- Dyslexics can't read because of their low IQ.
- Dyslexic students have behavioral issues
- Dyslexics are lazy and unmotivated. (Vision)

Dyslexia: A Definition

An unexpected weakness in a sea of strengths.

What is Dyslexia?

Dyslexia is a neurological condition that affects a person's ability to read, spell, and produce written language.

Dyslexia: A Continuum

Severity = Treatment Plan

Reading: What we Know

- According to studies sponsored by the National Institutes of Health (NIH):
- If a child is not reading at grade level by the start of **third grade**, there is only a **25% chance** that that student will catch up and read at grade level during his/her entire school career.

Dyslexia: Who is at Risk?

- A family history of delayed speech and language development or literacy problems
- Difficulty rhyming by the age of four
- Errors in letter naming by the end of kindergarten
- Difficulty finding the words needed to express basic thoughts and ideas

Dyslexia: Who is at Risk?

- Difficulty with the comprehension of spoken or written language
- Difficulty remembering colors, sequences (numbers, days of the week, seasons, months, etc.)
- Children with working memory issues
- Difficulty with directionality with regard to space and time (right and left; up and down; early and late; yesterday and tomorrow)

Dyslexia: Who is at Risk?

- Children who have difficulty decoding single words
- Difficulty encoding—spelling—words
- Slow rate of writing

Dyslexia: Who is at Risk?

- Difficulty with organization;
- Difficulty with mathematics—often related to the sequencing of steps or directionality or the language of mathematics

Identification: Next Steps

If you suspect that your child has dyslexia or any learning difficulty, what should you do?

- A psycho-educational evaluation is needed
- Two choices:
 - Private
 - Public School System

Psycho-educational assessment includes:

- Cognitive Potential & Processing;
- Achievement Testing
 - Phonological processing including phonemic awareness
 - Word decoding
 - Fluency
 - Comprehension
 - Spelling
 - Written Expression
 - Speech & Language (if needed)
 - Math

Identification: Final Report

- A final report should provide test scores as well as a narrative explaining these scores and offering specific recommendations for remedial interventions.
- If the report is from a school district, the diagnosis may not include a diagnosis of dyslexia. Instead, the diagnosis may be a specific learning disability in reading.

It is critical that identification of a reading problem and proper forms of intervention happen by the start of third grade or there is only a 25% chance that the student will read at grade level in his school career.

Discrepancy Model: A Failed Model for Identification

Students are most often qualified for services by using a discrepancy model which states that there has to be a significant discrepancy between a child's IQ score and his achievement level in reading or writing.

Unfortunately, it takes time to grow enough of a significant discrepancy to qualify for services. Most students we see at Groves have not been qualified until fifth grade or later.

- 450 Students
- Early ID and Intervention
- Results

Yale's Haskins Laboratory:

- MRI study pinpointing the neural activity of good readers versus dyslexic readers controlling for:
 - IQ
 - SES
 - Other relevant variables

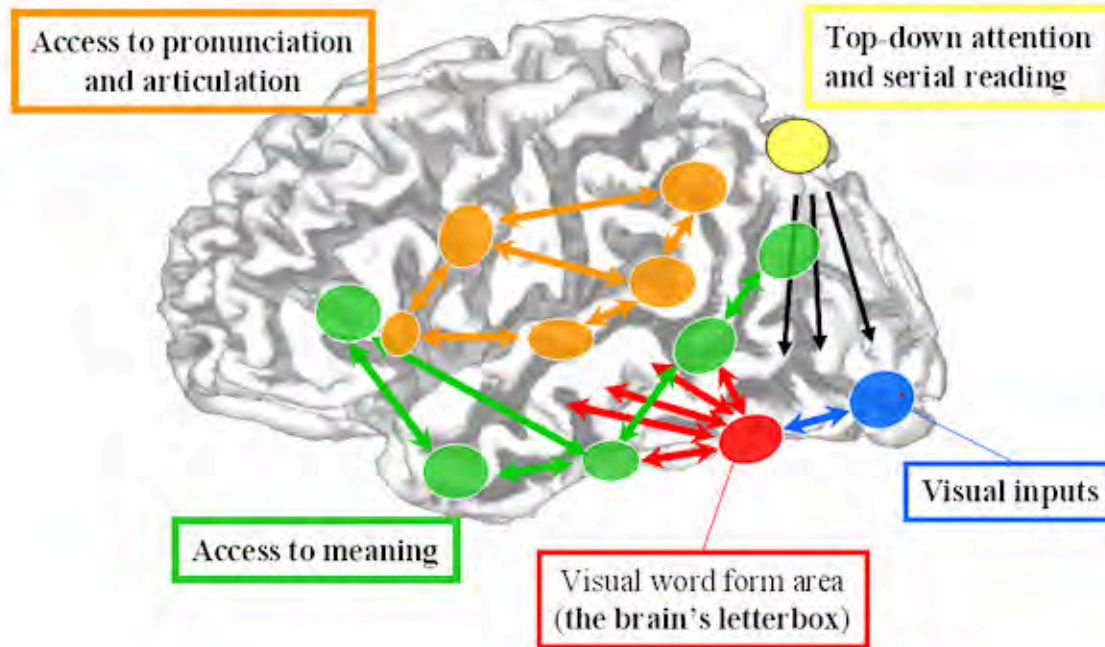
Haskins Laboratory Findings:

- The neural pathways of dyslexics light up differently than the pathways of “normal” readers.
- The neural pathways can be rewired with proper intervention.

Haskins Laboratory Findings

- Five variables of intervention dependent upon where on the continuum a student falls:
 - The intervention itself
 - Intensity
 - Frequency
 - Duration
 - Knowledge and expertise of the teacher

The Brain While Reading



Human Bulletin



AMERICAN MUSEUM OF NATURAL HISTORY 

HOW DOES READING CHANGE THE BRAIN?

NOVEMBER 29, 2010



Scans of adults who recently learned to read looked similar to those of people who learned as children, revealing that literacy can change the brain at any age.

-  Written sentences
-  Spoken sentences

fMRI data: Stanislas Dehaene

- Good reading instruction is good reading instruction.
- It doesn't matter if the instruction is for a traditional learner or for a dyslexic student.
- The variables of instruction might need to change including the **intensity**, the **frequency**, and the **duration** of that instruction.

Reading Assumptions

- The teaching of reading and spelling must be viewed through a scientific lens.
- Unlike oral language, reading does not come naturally and relies heavily on how we hear and manipulate sounds (phonemic awareness) even before we see printed words.
- Reading is learned and, therefore, must be taught, supported, and sustained.

Reading Assumptions

- English is a difficult language to master in its written form.
- Most adults conceptualize words in their written form rather than in their spoken form.
- We don't pay attention to the speech sounds contained within words.
- For example, we do not interpret the word, "cat," as three distinct sounds. Rather, it is considered as one sound unit conferring meaning.

Dyslexia: Examples

Sight versus Sound

What word is this child spelling:

“grs”

Dyslexia: Examples

Sight versus Sound

How many sounds in the word

“ox?”

Reading: What we Know

- The most reliable indicator of difficulties in comprehending what is read is the ability to read **quickly** and **accurately** (**reading fluency**).
- Reading the English language requires understanding the alphabetic writing system—understanding that the alphabetic print must be converted into sounds and meaningful messages.

Reading: What we Know

- For a vast majority of students who have a difficult time reading, the breakdown occurs around having **automaticity** with print skills.

Reading: What we Know

- The longer it takes you to read something, the more memory and more attention it is going to require.
- If too much memory and attention are required, there is not enough mental energy left for comprehension, particularly as the text becomes more complex.

Reading: What we Know

- There is an important distinction between “learning to read” and “reading to learn.”
- In grades K-3, students are learning to read.
- Starting in grade 4, students begin to read to learn.
- If by grade 4 students cannot read, they fall further and further behind in school.

Reading: What we Know

- Effective classroom instruction in the early grades by well prepared teachers is the most powerful method for preventing reading and learning problems.
- When teaching children who have a difficult time learning to read, the research indicates that explicit, systematic instruction is most effective.

Reading: What we Know

- We know that nationally about 40% of students struggle to read and do not have basic reading skills;
- We know that when we have highly trained teachers who teach reading correctly, based on scientific evidence, (not on philosophy, not on belief, not on untested assumptions), we reduce that shame of having 40% of students not being able to read to 2 to 5%

Reading: What we Know

We know there is a direct relationship between:

- the **intensity**,
- the **amount of systematization**, and
- the **amount of explicitness** that goes into reading instruction, and
- the **ease** at which a child will learn to read.

Reading: What does a Student Need?

- Students also need automaticity with symbol-sound correspondences.
- That is, students need to be fluent readers.
- They need to read accurately at a high rate of speed.

The Five Strands of Reading Instruction

1. Phonemic Awareness
2. Phonics
3. Fluency (reading rate and accuracy)
4. Vocabulary
5. Comprehension

Five Strands of Reading

It is very important that we don't view the strands as being separate and distinct within a reader. Instead we need to think of one "reading rope," consisting of the interweaving of the five strands.

Scientifically-Based Reading Instruction (SBRI)

Should be:

- Direct
- Explicit
- Sequential
- Multi-sensory
- For older students, analytical
- And, ideally, SBRI should be diagnostic/prescriptive

Reading: A Survey of Language Knowledge (Moats)

- When is “ck” used in spelling?
- What letters signal that g is pronounced like a /j/?
- List all the ways that you can think of to spell /k/?
- What are the six common syllable types in English?
- When adding a suffix to a word ending in “y,” what is the rule?
- What is the “silent-e” rule for spelling?

Reading: A Survey of Language Knowledge (Moats)

From the survey, we found:

- 45% could identify the schwa vowels in written words
- 30% could explain when “ck” is used in spelling
- 30% could explain the “y rule” used in spelling
- 15% knew the six syllable types

Source: Moats, “The Missing Foundation in Teacher Education”)

An Example of the Importance of Understanding Language Structure

Error analysis:

“grip” spells _____?

Why?

An Example of the Importance of Understanding Language Structure

Error analysis:

“chrane” spells _____?

Why?

An Example of the Importance of Understanding Language Structure

Error analysis:

How should a teacher handle the misspelling of

Sine for Sign?

An Example of the Importance of Understanding Language Structure

Error analysis:

Sbider spells _____?

Why?

An Example of the Importance of Understanding Language Structure

Error analysis:

Buddr spells _____ ?

Why?

An Example of the Importance of Understanding Language Structure

Error analysis:

How should a teacher handle the misspelling of

Government for Government?

Dyslexia/Reading Resources

- Sally Shaywitz's, *Overcoming Dyslexia*
- International Dyslexia Association (IDA) 410.296.0232, www.interdys.org
- Louisa Moats, "The Missing Foundation in Teacher Education"
- Louisa Moats, *From Speech to Print*
- National Institutes of Child Health and Human Development (NICHD): www.nichd.nih.gov/default.htm
- National Reading Panel: *Teaching Children to Read*, www.nationalreadingpanel.org
- International Dyslexia Association, Upper Midwest Branch (IDA-UMB): www.ida-umb.org

Dyslexia/Reading Resources

- Orton Gillingham of Minnesota (OG-M): 763.951.2379, www.ortongillingham-mn.org
- Lindamood-Bell of the Twin Cities: 952.835.0700
- Reading Rockets: www.readingrockets.org
- Groves Academy: 952.920.6377, info@grovesacademy.org, www.grovesacademy.org
- What Works Clearing House: ies.ed.gov/ncee/wwc/

Want to learn more?

To schedule a meeting regarding **your child**, please contact Nancy Segreti
segretin@grovesacademy.org

For information about a literacy partnership for **your school**, please contact Katharine Campbell
campbellk@grovesacademy.org



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