Detangling Dyslexia

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Scientific Consensus on Dyslexia
Over 30 years of federally sponsored research (2003)
- Neurology
- Cognitive Psychology
- Educational Psychology
- Speech Pathology
- Education/Clinical Knowledge

National Institutes of Child Health and Development
The International Dyslexia Association

1950’s
A Typical Family
Some are Born to Read
They have an edge on school success

- 5% Learn to Read Effortlessly
- 30% Learn to Read Easily

Many Federal Studies Since 1965 Combined

Some are Born to Read

- Surrounded by books
- Parents and grandparents read to her
- She read spontaneously at age 4
- Reading was her favorite activity

Older Sister

Some are Born to Read

- Surrounded by books
- Parents and grandparents read to her
- She learned to read easily
- Reading was not her favorite activity
- She liked dance, sports and making things.

Middle Sister
Most are Not Born to Read
70% Need Direct Instruction

- 35% Challenging
- 20% Hard
- 5% Very Hard

National Institute of Child Health and Human Development (1998)

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The Dyslexia Zone

- Surrounded by books
- Parents and grandparents read to her
- BUT
- She didn’t learn to read
- Held back at 4th grade

Youngest Sister

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The Dyslexia Zone

For up to 25%, learning to read is:

“...one of the most difficult tasks they will have to master throughout their schooling.”

Dr. G. Reid Lyon, Chief,
National Institutes of Child Health and Development (1998)
Scientific Definition of Dyslexia

- neurological in origin*
- poor decoding (inaccurate reading)
- poor spelling
- disfluent reading*
- unexpected (given the student’s other abilities)

National Institutes of Child Health and Development
International Dyslexia Association (2003)

This is What Dyslexia Looks Like

“Penpals”
Norman Rockwell

This is What Dyslexia Looks Like

Grade 2

My lunch money is in my heavy jacket so we don’t worry.
This is What Dyslexia Looks Like

This 2nd grade child gave himself the F.
His answer to the math problem is correct.
He had received extra help through special education.

This is What Dyslexia Looks Like

“The vast majority (of alternative schools) produce more dropouts than graduates”
The Oregonian (4/27/2011)

Alternative Middle School
Brefist List
Blue barry
chocolet
bary
plane pancakes
bagals
yogrt any cind just about
said wichis any thing on theme
Sope / chicin / spgretue

This Is What Dyslexia Looks Like

Bright 6th Grader at a competitive private school
Can’t translate language to a written from on a page
This is What Dyslexia Looks Like

What have you noticed about these examples?
What do they not know?

• Poor and unsure letter formation
• Missing letters in words
• Wrong letters for the sounds in the word
• Poor use of common spelling patterns
• Spatial disorientation

Written work is a key to diagnosing dyslexia because it clearly shows the student has not mastered the alphabetic principle.

Brain Imaging Proved Dyslexia 1996

Paulesu, Frith, Snowling et al.,(1996)
Dyslexia As A Disconnection Syndrome. Brain # 119

A Good Reader - Decoding Comes First

Dehaene, Stanislas (2009)
Reading in the Brain.

Left Hemisphere

#1 Visual Input
#2 Word Form Area
#3 Meaning
#2 Sequential order of letters
#2 Matching sounds with letters. Convert to speech code.
Brain Areas Used by Good Readers

Left Side of the Brain

- Sounds
- Integration area
- Visual recognition of words
  (Word Form Area)

Shaywitz, Sally (2003) *Overcoming Dyslexia*

Obvious Differences

Good reader

Dyslexic reader *before*
specialized instruction

What Worked

- Dyslexic readers *after* 1-2 years of an Orton-Gillingham intervention
- Individual instruction
- Reading and spelling normalized
Dyslexia Causes Emotional Turmoil
1st Grade School Evaluation

“She stated that did not wish to take the reading, spelling and math tests as she could do none of these things.”

“Back to School”

Information Needed

Percentage of teachers or parents who believed learning disability/dyslexia is caused by

- Laziness 50%
- Poor Home Environment 50%

Tremaine Foundation Poll (9/2010)
Measuring Progress in Public & Parental Understanding of Learning Disabilities
Information Needed

Percentage of teachers or parents who believed learning disability/dyslexia is caused by

- Mental Retardation: 80%
- Autism: 70%

Tremaine Foundation Poll (9/2010)
Measuring Progress in Public & Parental Understanding of Learning Disabilities

What Does the Law Require?

- Free, appropriate, public education
- Specially designed instruction for each student
- Instruction based on individual evaluation
- Show progress in the general education curriculum
- Yearly goals that will lead to success

Federal Law Since 1975

- Public Law 94-142 (1975)
- National Advisory Committee on Handicapped Children (1968)

Legal Definition of Dyslexia

The term does not include children... (with)

- Visual, hearing, or motor handicaps,
- Or mental retardation,
- Or primary emotional disturbance,
- Or of environmental, cultural, or economic disadvantage.*

U.S. Office of Education
Treat Dyslexia

The key to High School Graduation!

Undertreated Dyslexia

- “Behavior” rooms
- Criminal activity
- Substance abuse
- Homelessness
- Unemployment

Undertreated Dyslexia = Dropouts

A student who fails 8th grade tests in reading and/or math,

has less than a 50% chance of graduating from high school within 5 years.

What Doesn’t Work

Cathy’s sister - Grade One

- Teachers said: “try harder”
- Teachers said “read at home”
- She tried hard: it didn’t work.
- She “read” at home: frustration for all
- Schools never gave her the help she really needed.

Every Letter Counts (1991)

(A scientific breakthrough in understanding reading)

Good readers do not read in whole words, rather they notice every letter and spelling pattern so quickly. “(they) give us the sense and appearance of recognizing these (letter) strings instantly and holistically”

Beginning to Read: Thinking and Learning About Print

Match Letters to Their Sounds

“Poor readers have not yet mastered the alphabetic principle.”


1. This second grader is not matching the sounds to the letters in sequence
2. This student was getting special education.
Little Letters Add Up to Big Words

- Four years of twice weekly Orton-Gillingham instruction
- Letters/sounds
- Spelling patterns

The Secret of Success

The Classic Orton-Gillingham Approach

Developed for Dyslexians
The Leader for Over 75 Years

Intensive Practice Leads to Mastery

- Letters/sounds
- Letter formation (motor patterns)
- Spelling
- Reading words, phrases, sentences, paragraphs, pages…
The Secret of Success
Multisensory, sequential phonics

- See letter - say sound
- Blend sounds into syllables or words
- Write letters - say sounds
- Read the word

The Secret of Success
Diagnostic/Prescriptive Lessons

- No script, workbook series, CD or online canned lesson
- Lessons focus on one concept at a time
- Constant cumulative review

There is an Answer

Bright 6th Grader at a competitive private school
There is An Answer

Same student after two years of specialized, professional instruction.

How Can Libraries Help?

- Decodable books for kids
- Audio books matched to school curriculum
- Electronic reading and writing aids and teach parents, students and teachers how to use them
- Access to computers with spell check
- Headphones so people can use the listen option on databases & websites

How Can Libraries Help?

- Summer Reading: count minutes, not books
- Audio books = reading
- Don’t forget non-fiction!
- Allow extra time to answer questions (rapid word recall)
- Adult NF on how people learn to read & on dyslexia
- Websites and community resources