Reading Disorders

Presented By
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In This Session...

- When students have difficulty translating language to reading
- Suggestions for the teacher
Reading and the Brain

- Not hard-wired
- New skill for humans
- Not in coded structure
- Has not emerged over time as a survival skill – as opposed to speaking
Male and Female Brains

Two years difference
How Does The Brain Read?

**Step one**: See the text

Dog

**Step two**: Decoding

dah-ahw-guh

**Step three**: Identify the word
Learning To Read

We must:

• Connect abstract symbols to sound bits
• Know the alphabet – 26 letters
• Connect those 26 letters to 44 sounds (phonemes)
So...

- Reading involves a recognition that speech can be broken into small sounds (phonemes) and that these segmented sounds can be represented in print (phonics).
What Could Go Wrong!

- Just when the brain thinks it has got it...
  - The same symbol has different sounds such as the “a” in cat and in father.
  - Groups of letters make a sound but not necessarily the same sound each time such as “ough” in cough, dough, through.
To Read...

- I must
  - Understand vocabulary
  - Have reasoning ability
  - Be able to form a concept

- Do I understand that the difference in “bat” and “cat” is the first letter?
- What if I grew up in poverty? Will it make a difference?
Sousa puts it this way...

- The word (dog) is first recorded in the visual cortex, then
- Decoded by a structure on the left side of the brain called the angular gyrus
- Which separates it into its basic sounds, or phonemes (duh awh guh)
Continued …

• This process activates Broca’s area so that the word can be identified.

• The brain’s vocabulary store, reasoning and concept formation abilities, along with activity in Wernicke’s area, combine to provide meaning.

• And produce the thought of a furry animal that barks.
In a Fraction of a Second

- Dog
- Dah-awh-guh
- Word identification
- Vocabulary, reasoning
- and concept formation
- Meaning
Phonological Awareness

• Not the same as phonics
• It is the recognition that oral language can be divided into smaller components
  – Sentences into words
  – Words into syllables
  – Syllables into phonemes
  – Begins with rhyming and the fact that sentences are made up of words.
Basic Differences...

- Phonological awareness involves the auditory and oral manipulation of sounds.

- Phonics builds on the alphabetic principle and associates letters and sounds with written symbols.
What the Research Says...

• Learning to read is not a natural ability for the brain
• The alphabetic principle is not learned merely by exposure to print
• Spoken language and written language are different and require different skills
Research...

• The single most important skill at the beginning stages of reading is the ability to read single words accurately, completely and fluently.

• Context is not the primary factor in beginning word recognition.
Successful Reading Requires...

- The coordination of three neural networks
  - Visual processing
  - Sound recognition
  - And word interpretation
Deficits in Phoneme Awareness

• Symptoms
  – Reading that is hesitant
  – Multiple mispronunciations
  – Low comprehension
Phonological Alexia

• May have genetic and neurobiological origins in that the decoding process in the angular gyrus is defective.

• Lack of exposure to spoken language patterns and usage
Deficits in Reading Comprehension

- Don’t understand the words
- Inadequate knowledge about the domains represented
- Not familiar with the semantic and syntactic structures
- Deficit in verbal reasoning
Dyslexia

- Difficulty recognizing written words
- Difficulty rhyming or sequencing syllables
- Difficulty determining the meaning or main idea
- Difficulty encoding words – spelling
- Poor sequencing of letters or numbers
Dyslexia Cont...

- Delayed spoken language
- Difficulty separating the sounds in spoken words
- Difficulty in expressing thoughts verbally
- Confusion about right or left handedness
- Difficulty with handwriting
- Family history of dyslexia
  - Sousa, 2006
What We Know...

• Reading problems are the most common difficulties that children have in school
• Learning to read requires a systematic process of steps that must be taught
• The visual and auditory impact of the technology of today is eroding the argument that reading is necessary (in some circles).
How to Develop Phonological Awareness...

- Continuous sounds before stop sounds
- Modeling
- Easy to complex tasks
- Larger to smaller units
- Good teaching strategies
Pave the Way With…

- Literature
- Word Families Charts
- Direct Instruction
Strategies

- Questioning and paraphrasing using Reciprocal Teaching
  - Questioning
  - Summarizing
  - Clarifying
  - Predicting
Strategies

• Questioning for Main Idea
Story Mapping

title

main idea

main idea

supporting information
For Reading Comprehension...

- Preview, review, and predict
- Ask and answer questions
- Summarize
- Synthesize
Reading Comprehension cont.

- Preview the reading
- Click and clunk
- Get the gist
- Wrap-up
Using Cooperative Learning

- Leader
- Clunk expert
- Announcer
- Encourager
- Reporter
And...

- Use cue sheets
- Learning logs
Early in the morning
by Li-Young Lee

While the long grain is softening
in the water, gurgling
over a low stove flame, before
the salted Winter Vegetable is sliced,
for breakfast, before the birds,
my mother glides an ivory comb
through her hair, heavy
and black as calligrapher’s ink
Scaffolding
In This Session

• A look at reading problems
• Suggestions for the teacher
Contact Me

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