Teaching Reading IS Rocket Science...

- 5% will learn to read on their own.
- 20-30% will learn to read relatively easily once exposed to formal instruction. Most methods will be effective.
- 30-50% will find learning to read to be difficult without direct systematic explicit instruction.
- 30-50% will find learning to read to be the most difficult challenge they will ever face.

- Reid Lyon

The good news...

For 90% to 95% of poor readers, prevention and early intervention programs that combine instruction in phoneme awareness, phonics, fluency development, and reading comprehension strategies—provided by well-trained teachers—can increase reading skills to average reading levels.

The bad news...

HOWEVER, when intervention is delayed until 9 years of age, approximately 75% will continue to have difficulties learning to read throughout school.

- Foorman, Shaywitz, Torgesen, Vellutino
More good news...

- Many, but not all, children who are significantly below average in reading in third to fifth grade can be brought up to grade level if they are given intensive, linguistically informed teaching for up to 2 hours per day (Torgesen et al., 1997).
- Several methods seem to be equally effective, but all that are effective include direct teaching of language structure with an emphasis on decoding fluently and accurately. Ample practice with skill application in meaningful contexts is a component of effective teaching.

Prognosis for success...

Dyslexic students are born with their developmental difficulties. Emotional, behavioral, and social blocks can be secondary to the frustrations and feelings of inadequacy that follow their attempts to perform satisfactorily. Progress in learning to cope with their difficulties leading toward satisfactory achievement in areas dependent upon language is determined by several factors:

Factors that affect prognosis:
- Severity or degree of the disability
- Innate intelligence
- Inner drive
- Background of educational values
- Duration and intensity of effective remediation received
- Time at which remediation begins (the more delayed the beginning, the more difficult it is to give adequate help in a classroom situation)
- Degree of understanding student has of his/her own individual pattern of learning strengths and weaknesses
- Ability of the student to self-advocate

Consensus of Research

The consensus of research is that some approaches are more effective than others and that what works best can be explained on the basis of the developmental level of the student, the cognitive and linguistic characteristics of the student, and the language content itself.

(Adams, Treiman & Pressley, Fletcher & Lyon, Learning First Alliance, Snow et al.)
Definition of Dyslexia

DYSLEXIA 2002: working research definition

- Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction.

- Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

Characteristics of Poor and Beginning Readers

- Over-reliance on context and guessing
- Limited phoneme awareness
- Slow naming speed—lack of fluency in word recognition
- Must devote attention to decoding process; limited attention available for meaning-making

? True or False?

- People with dyslexia see things backwards.
  - b-d
  - was-saw

FALSE

They see things exactly the same

- People with dyslexia have difficulty remembering labels associated with specific letters that are visually similar.
- Poor decoding strategies → Reliance on visual memory for how words look.
  - They often guess the incorrect label for a group of letters that appear visually similar.
In order to benefit from phonics instruction, students need to have **rudimentary** knowledge and understanding of the following **phonemic awareness skills**:
- Phoneme Blending
- Phoneme Segmentation
- Phoneme Manipulation

**Phonological Processing**

\[ \text{AUDITORY PROCESSING} \downarrow \text{PHONOLOGICAL PROCESSING} \]

- Phonological Memory
- Phonological Awareness
- Naming Speed

**Stanovich Research NOBODY Likes:**

- Less skilled readers are more dependent on context to derive meaning.
- The word recognition process for skilled readers is so rapid and automatic that they need not rely on contextual information.
- Good readers apply contextual information more fluently, not more often.
The Role of Context in Word Recognition

- Poor readers over-rely on context because letter-sound knowledge is weak.
- Context allows us to identify accurately only one word in ten.
- The content words in a passage tend to be less common, not in the sight vocabulary, and must be decoded accurately.
- Context alone resolves ambiguity and sometimes supplies meaning for unfamiliar words.

Context clues help skilled readers to predict unfamiliar words, but evidence strongly indicates that context is not used as a primary strategy for word recognition by skilled readers (Juel, 1991; Share & Stanovich, 1995).

Research has found the ability to apply knowledge of letter-sound correspondences to identify words is fundamental to independent word recognition.

Good readers rely on the letters in the word—NOT context or pictures.

Context enables the reader to predict accurately one out of four words overall (Gough & Hillinger, 1980), and the content words that carry meaning are predictable only 10% of the time (Gough, 1983).
The Role of Context in Word Recognition

- Moral of the "context story":
  - Context is not useful when it is most needed.
  - Which readers depend most on context?
    - Why?

Instant Word Pattern Recognition...

- The ease and automaticity with which a skilled reader is able to read individual words is known as instant word recognition.
- Instant word recognition is achieved by repeated encounters with words and by overlearning (i.e., learning to automaticity) the orthographic and phonological patterns of the language.

Phonics contributes to reading fluency.

- The automaticity with which a child decodes is fostered by the ease with which the child recognizes and connects sounds and letters.
- Students learn sounds and letters best when teachers use explicit, systematic instruction involving teacher modeling and extensive practice before independent application.

Automatic Word Recognition...

Automatic word recognition is the result of familiarity with letter-sound correspondences and spelling patterns (Adams & Bruck, 1995).
How skillful readers read...

“Skillful readers visually process virtually every individual letter of every word as they read, and this is true whether they are reading isolated words or meaningful, connected text” (Adams, 1990).

Orthographic Memory

- Memory for patterns of written language
  - Letters
  - Syllables
  - Morphemes
- Syllables—linguistic units

Automatic Word Recognition...

- Student’s ability to break up and read longer words accurately.
- Instruction in spelling patterns (orthography), syllable generalizations (phonics), and morphology-etymology.
- Use of explicit, systematic instruction involving teacher modeling and extensive guided practice leading to independent application-functional use.

Independent Reading Level

- The books a student reads independently should be books he/she can read with 95% to 99% accuracy and 90% comprehension. Students can access information in textbooks and other assigned reading at more difficult levels in audio-format through “Recording for the Blind and Dyslexic” (www.rfbd.org) or another organization that distributes books in audio-formats.
Independent Reading Level

Reading research clearly makes distinctions between three different reading levels:

- **INDEPENDENT READING LEVEL:**
  Student reads with 99% accuracy and 90% comprehension. Oral reading is fluent and well phrased. (Even the most conservative experts would insist upon at least 95% word reading accuracy and 90% comprehension.)

- **INSTRUCTIONAL READING LEVEL:**
  Student reads with 95% accuracy and 75% comprehension.

- **FRUSTRATION READING LEVEL:**
  Student reads with less than 90% accuracy and less than 50% comprehension.

• The reader should be encouraged to pause and study unknown words *instead of to skip or to guess* an unfamiliar word (Adams, 1990).

Although this processing often is not perceived on a conscious level, studies show that misprints of even very familiar words are detected by readers. When the letters *fage* rather than *the* are embedded in a sentence, the amount of eye fixation time increases (Adams, 1990).
Signs of problems with intersensory integration...

- Recognizes letters visually but cannot recall name or sound (V-A)
- Recognizes that he has seen a word before but cannot remember what the word is (V-A)
- Can write (copy) some words or sentences, then cannot read what he has written (K-V)
- Can spell orally, but not on paper (A-V-K)
- Can select correctly spelled word from a group but cannot write it from dictation (A-V-K)
- Poor at recognizing and identifying correct word from group when word is spoken (A-V)

All language requires the integration of at least two modalities...

- Silent reading
- Copying
- Oral reading
- Speaking

Growth of the language cortex: from birth to six years

What makes learning stick?...

- Practice Makes Permanent
  - Be certain that what you practice IS what you want to become permanent.
    - Joyce Steeves
Reading is a skill...

Reading is a skill. It must be taught as a skill just as cutting stone to a desired form.

- author unknown

Spell Check Reality

I have a spelling checker. It came with my P.C. It clearly marks for my revue Mistake I cannot sea. I've run this poem threw it, I'm sure your please to no, Its letter perfect in it's weigh, My checker tolled me sew.

-Norma Lent

SLINGERLAND Multisensory Structured Language Approach

Basic Principles
- Simultaneous Multisensory Approach
- Alphabetic Phonic: begins each teaching with single units of sight, sound and feel (a letter)
- Teaches through the Intelect
- Builds from Skills to Functional Use
- Oral Language Foundation for ALL Learning
- Strategically Builds Toward Independence
Simultaneous Multisensory Language Processing: Integrated Learning Model—SLINGERLAND

AUDITORY VISUAL KINESTHETIC

5 Steps to Teaching a New Concept

GOAL – AUTOMATICITY
♦ from teacher modeling ♦ guided practice ♦ to independent functional use
1. Teacher demonstrates and verbalizes.
2. Individual students practice with guidance, verbalizing.
3. Class (or group) practices with guidance, verbalizing.
4. Students practice independently.
5. INDEPENDENT FUNCTIONAL USE

Kinesthetic:

Helping each student develop awareness of

♦ Oral–motor movement for pronunciation of each phoneme
♦ Sequence of hand movements for formation of each letter of the alphabet
Thoughts on the process of writing...

"As I write my mind is not preoccupied with how my fingers form the letters; my attention is fixed simply on the thought the words express. But there was a time when the formation of the letters, as each one was written, would have occupied my whole attention."

Sir Charles Sherrington, 1906

Speech to Print

It has been established by many studies that BOTH phoneme awareness (the ability to identify the individual sounds in words) and phonics (the ability to represent those sounds with letters) are essential for skilled reading.

Ample Data to Support Speech to Print

Recent research by neuroscientists and cognitive scientists has provided ample data to support a speech to print approach to teaching beginning reading. These studies point to the fact that the foundation of reading is speech and that the organization of new reading skills in the brain must be built on this foundation.

-Dr. Jeannine Herron-

Auditory–Kinesthetic
The Power of the Speech Connection

- Phonemes are not sounds processed uniquely by the auditory system; they are articulated sounds.
- It is the powerful motor system of speech that sequences and remembers phonemes.
- Letters represent articulated sounds.
- Text is a way of making speech visible.
- The process of learning to read should start by turning spoken words into visible words.

-Dr. Jeannine Herron-

Functional Use

AUDITORY
C. SPELLING
"ear span"
who/what/whom/ where/why/how
• Punctuation
• Vocabulary
• Rhythm
• Phrases
• Clauses
• Grammar
• Concept Markers

VISUAL
C. PREPARATION FOR READING
"eye span"
who/what/whom/ where/why/how
• Punctuation
• Vocabulary
• Rhythm
• Phrases
• Clauses
• Grammar
• Concept Markers

From Skills to Functional Use
SLINGERLAND Lesson Plan Format

Slingerland Multisensory Approach to Language Arts Instruction
(Reading, Spelling, Handwriting, Written Expression)

DAILY TEACHING FORMAT
Learning to Write
Learning new letters
Reviewing letters already learned
Learning cursive letter connections

AUDITORY
A. Alphabet Cards  A. Alphabet Cards
1. Oral
2. Written

B. Encoding  B. Decoding
1. Oral
2. Written

C. Spelling  C. Preparation For Reading
1. Rootwords and Affixes
2. Red Flag Words
3. Phrases; Sentences

D. Dictation  D. Structured Reading-Studying

E. The Goal: INDEPENDENT READING

ACTIVE LEARNING

Active techniques, such as hand gestures and movement of letter cards, require the learner to select, classify, and consciously manipulate sounds and letters so that more thorough—deeper—word learning occurs.

DECODING PRACTICE

catnip  rodent
invade  turpentine
oatmeal  mended
activity  exponential

Most English words are predictable...

- Closed syllables alone make up 43% of syllables in English words.
- Open syllables and closed syllables together account for almost 75% of English syllables.
LANGUAGE

- Beauty in texture
- Dependability in structure

-Priscilla Vail

The logic and structure...

- commitment
- committee
- referral
- reference
- illogical
- efficacious
- effective

VISUAL LESSON:
Preparation for Reading & Structured Reading (Studying)

KEY POINTS

- Reading instruction begins immediately.
- Sufficient preparation for reading ensures success when the book is placed in the student’s hands. THIS SUCCESS SERVES AS INTRINSIC MOTIVATION WITHOUT FEAR OF FAILURE.
- Speed is not the main goal.
- Emphasis is placed on the phrase as the smallest unit of meaning.
- The teaching of reading is divided into two distinct parts:
  - C. Preparation for Reading
  - D. Structured Reading (Studying)

Four Stages of Structured Reading (Studying)

1. Structuring by Teacher
   Teacher structures
2. Studying Aloud
   Student structures with teacher’s assistance only if needed.
3. Studying Silently
   Student structures with teacher’s help, if requested. Spot checks. Followed by immediate oral reading.
4. Studying Independently
   Reread orally with discussion following this step
The Slingerland Approach:
classroom adaptation of the Orton-Gillingham Approach

1. Incorporates simultaneous multisensory teaching strategies
2. Uses the alphabetic-phonetic principle of beginning with the smallest unit of sight, sound, feel-a letter
3. Teaches to the intellect
4. Teaches strategies for figuring out what may be difficult to memorize by rote
5. Includes the teaching of all the language arts skills: oral expression, decoding, reading comprehension, spelling, handwriting, written expression-within one integrated direct instruction approach

SLINGERLAND:
a totally integrated language arts approach

- Oral Language
- Handwriting
- Encoding (segmenting) and Decoding (blending) Strategies
- Organizational Skills
- Reading Comprehension
- Written Expression

SLINGERLAND Lesson Plan Format

Slingerland Multisensory Approach To Language Arts Instruction (Reading, Spelling, Handwriting, Written Expression)

DAILY TEACHING FORMAT

- Learning in Notes
- Learning cursive letter connections
- Reviewing letters already learned

AUDITORY

A. Alphabet Cards
   1. Oral
   2. Written
B. Encoding
   1. Oral
   2. Written
C. Spelling
   1. Rootwords and Affixes
   2. Red Flag Words
   3. Phrases; Sentences
D. Dictation
E. The Goal: INDEPENDENT WRITING

REMEDIATION

- Direct instruction to teach skills and functional use of skills with the goal of independent application
  (example: teaching decoding strategies)
### Areas of Learning to be Considered during Evaluation and Remediation of Dyslexia

<table>
<thead>
<tr>
<th>ORAL LANGUAGE</th>
<th>MATH</th>
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<tbody>
<tr>
<td>Comprehension</td>
<td>Calculation</td>
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<td>Memory</td>
<td>Memory and Retrieval</td>
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<td>Expression</td>
<td>Application</td>
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<td>Social</td>
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<td>Fluency</td>
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### COMPENSATORY STRATEGIES

- Compensatory Strategies: Strategies developed independently or directly taught to use strengths to compensate for weaknesses (example: subvocalization/verbal mediation/reading aloud)

### ACCOMMODATION

- Act of doing or performing a service or favor for; obliging
- Provisions made by another person to make it possible for students to do their own work independently (example: extended time)

### Know your stuff!

Knowledge of language structure is essential for teachers of students with dyslexia.

—Louisa Moats, Ed.D.—