How Do We Help our Students with Dyslexia Improve their Basic Reading Skills?

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"No other skill taught in school and learned by school children is more important than reading. It is the gateway to all other knowledge. Teaching students to read by the end of third grade is the single most important task assigned to elementary schools." – American Federation of Teachers

"Children who get off to a poor start in reading rarely catch up. We wait---they fail. But it does not have to be this way."
From: Rethinking Special Education for a New Century, Chapter 12: Rethinking Learning Disabilities *G. Reid Lyon, Jack M. Fletcher, Sally E. Shaywitz, Bennett A. Shaywitz, Joseph K. Torgesen, Frank B. Wood, Ann Schulte, & Richard Olson, 2001.*

Topics

- Discuss how basic reading skills develop.
- Provide examples of effective evidence-based interventions that are matched to developmental levels.
- Discuss how technological innovations can help address reading failure.
- Consider the importance of teacher preparation and training.

The Term Dyslexia

"In the first half of this century the story of dyslexia has been one of decline and fall; in the second half it has culminated in a spectacular rise. From being a rather dubious term, dyslexia has blossomed into a glamorous topic; and rightly so, for with a prevalence of around 5% the condition is remarkably common" (Frith, 1999, p. 192).

The Simple View of Reading

RC = D x LC
Reading Comprehension (RC) = the product of decoding (D) times listening comprehension (LC)
Gough & Tunmer, 1986

Four Types of Readers

- Impaired decoding, but typical listening comprehension (specific reading disability/ dyslexia)
- Impaired listening comprehension, but typical decoding (language impairment)
- Impaired decoding and listening comprehension
- Typical decoding and listening comprehension

Reading Comprehension

"Individuals with problems in reading comprehension that are not attributable to poor word recognition have comprehension problems that are general to language comprehension rather than specific to reading." (p. 3)

Spencer, M., Quinn, J. M., Wagner, R. K. (2014). Specific reading comprehension disability: Major problem, myth, or misnomer? *Learning Disabilities Research & Practice, 29, 3-9.*

Strategies for Word Identification

1. By segmenting and blending sounds.
2. By pronouncing common spelling units (e.g., syllables).
3. By recognizing sight words from memory.
4. By creating analogies to known words.
5. By using context cues to predict words.

Skilled Reading

The key to efficient text reading is automaticity (the ability to read words by sight automatically). Allows readers to process words in text quickly w/o conscious attention to words. All other cuing systems require conscious attention.

Source: Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.

Phases of Sight Word Development

- Pre-Alphabetic Phase
- Partial Alphabetic Phase
- Full Alphabetic Phase
- Consolidated Alphabetic Phase

Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.

Pre-Alphabetic Phase

- Makes connection between salient visual cues and word meaning
- Does not use letter-sound relations to aid in word identification

Partial Alphabetic

- Makes connections between some of the letters and sounds
- Relies more on first and final sounds
- Lacks full knowledge of alphabetic system, particularly vowels
- Reads same word inconsistently and confuses words with similar letters (e.g., cap and camp)

Full Alphabetic

- Has complete connections between letters and phonemes
- Can decode words never read before by segmenting and blending letters
- Remembers how to read sight words

Consolidated Alphabetic

- Recognizes larger letters units instantly
  (e.g., morphemes, syllables, onset/rimes)
- Has consolidated units in memory
  (e.g., -est, -tion, -ing, -le)
- Is sensitive and recalls spelling patterns observed in words
- Reads words rapidly and easily

Different People require Different Approaches at Different Developmental Stages

Three Tiers of Service Delivery

- Tier III - Students who still do not respond receive more targeted, intensive interventions. Consider eligibility and need for special education.
- Tier II - Students who do not respond may receive more intensive interventions in small groups
- Tier I - All students are provided with evidence-based instruction and progress is monitored

What can be weird, about three tiers?

- the different types of interventions
- the lack of flexibility in the system

"In summary, the results of this randomized controlled trial revealed that immediately providing Tier 2 and 3 interventions to students who qualify led to generally stronger reading outcomes by the end of first grade, in contrast to typical RTI, which waited for students to respond to Tier 1 for 8 weeks before providing intervention, thus resulting in the most intense interventions being delayed…"

Al Otaiba, S. et al. (2014). *Exceptional Children*, *81*

Prevention Program

"A prevention program should have its inception at the earliest school age and be continued coordinately with correction through high school" (p. 343).

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

The Upper Grades

"… provision for correcting reading disability in the upper grades and high school should be a major responsibility of teachers and administrators" (Williamson,1939, p. 347)

"A variety of programs must be available for children who have a variety of needs" (p. 194).

Source: Cruickshank, W. M. (1977). Least-restrictive placement: Administrative wishful thinking. *Journal of Learning Disabilities, 10,* 193-194.

Letters, Phonemes, and Graphemes

- How many letters in the alphabet?
- How many speech sounds?
- How many graphemes? (a letter or grouping of letters that represent a single speech sound)

The Alphabetic Principle

The systematic use of alphabetic letters to represent speech sounds - how speech sounds are represented in print

Moving from Pre-Alphabetic to Partial Alphabetic: Phonological Awareness to Print

- Teach segmentation (necessary for spelling) and blending (necessary for reading).
- Teach sounds and then how the sounds are spelled with letters (e.g., use Elkonin boxes, Phoneme-Grapheme Mapping, Making Words).
- Progress from regular patterns (e.g., CVC) to more complex patterns.
- Introduce and provide systematic review of words with irregular elements (e.g., once).

The Two Most Important Phonological Awareness Abilities

- Sound blending: provides the basis for learning phonics
- Segmentation: provides the basis for sequencing sounds when spelling

Training Sound Blending Ability

Ability to push together sounds

- Start the instruction with continuous sounds that can be prolonged (e.g., /s/, /f/, /m/)
- Progress from compound words to syllables to onset-rimes to phonemes
- Present words with two sounds, three, and then four (e.g., /m/ /e/, /sh/ /oe/, /c/ /a/ /t/, /s/ /a/ /n/ /d/)
- Gradually increase the interval between sounds from 1/4 second to 1 second break

Segmentation

1. Break compound words into words (e.g., cup-cake.)
2. Count the number of syllables in a word (e.g., car-pen-ter).
3. Break into onset-rime (e.g., c-at).
4. Count the number of phonemes (e.g., s-e-g-m-e-n-t).

Adapted Elkonin Procedure (Pre-Alphabetic)

1. Select a simple line drawing.
2. Place a rectangle for a word under the drawing divided into squares equal to number of phonemes.
3. Say the word slowly and push a marker forward for each sound.
4. Color-code markers for vowels and consonants.
5. Progress to letter tiles

Making Words

- Give each student 6-8 letters with one or two vowels.
- Have each student make 2 then 3 letters words using the letters.
- Continue a pattern, increasing word length one letter during each step.
- Example: it, sit, slit, split, splint
- Practice with morphemes: ed, ing, er

Source: Cunningham, P.M., & Cunningham, J. W. (1992). Making words: Enhancing the invented spelling-decoding connection. Reading Teacher, 46, 106-115.

Modifying Making Words

- Focus on CVC patterns
- Progress from changing initial to final to medial sounds
- Integrate with a reading/writing activity
- Pair at-risk student with tutor

Phoneme-Grapheme Mapping

- What do you hear?
- What do you write?
- One chip = one sound

Phoneme-Grapheme Mapping

- Builds on phonemic awareness
- Phoneme-Grapheme Mapping builds the bridge between sounds and letters

Kathie Grace, PG Mapping, Voyager Sopris Learning

Talk-to-Yourself Chart

(Adapted from Benchmark School, Gaskins)

1. The word is _____.
2. When I stretch the word, I hear _____ sounds.
3. There are _____ letters because _____.
4. The spelling pattern is _____.
5. This is what I know about the vowel:_____.
6. Another word I know with the same vowel sound is:_____.
7. Other words that share this same spelling pattern are:_____.

1. **The word is *right.***
2. **When I stretch the word, I hear *3* sounds.**
3. **There are *5* letters because it takes *i-g-h* to represent the *i* sound.**
4. **The spelling pattern is *ight.***
5. **This is what I know about the vowel: the vowel is the only vowel in the word and it says its own name.**
6. **Another word that I know with the same vowel sound is: *ride.***
7. **Other words that share this same spelling pattern are: *light, fight, flight, right,night, might, tight, sight, fright, plight***

Moving from Partial Alphabetic to Full Alphabetic

- Phonics Approach
- Multisensory Approach (e.g., Fernald)
- Multisensory Phonics Approach (e.g., Orton-Gillingham)

Three Basic Types of Phonics Approaches

Synthetic: Start with single sounds and letters
Analytic: Start with word parts and words (e.g., word families, onset-rimes, analogies)
Embedded: Teach sound-symbol relationships in the context of text. Highlight unknown patterns.
Synthetic phonics approaches are needed for students with the most severe dyslexia.

Examples of Effective Synthetic Phonics Programs

- Barton System (can be used by parents)
- Corrective Reading
- Herman method
- Language! (and Language online)
- Mindplay Virtual Reading Coach (online)
- Orton-Gillingham
- Phonic Reading Lessons
- Project Read
- Read, Write, and Type (computer)
- Slingerland
- Spalding method
- Wilson Reading System (Fundations)

Principles of Effective Phonics Instruction

1. Teach sound blending.
2. Provide instruction in decoding. (grapheme to phoneme)
3. Provide instruction in encoding. (phoneme to grapheme)
4. Have the student practice skills in decodable text.

Color Coding

- **Green:** Phonically regular words: (e.g., cat, swim)
- **Yellow:** Irregular but frequent patterns (e.g., night)
- **Red:** Irregular (e.g., once)

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1. What phase is Marie in Ehri's Sight Word Development?
2. On what two areas of reading does she need to work?

Moving from Full Alphabetic to Consolidated

- Emphasis is on structural analysis; teach prefixes, suffixes, Latin and Greek roots.
- Glass-Analysis
- Six Syllable Types
- REWARDS (Archer, Gleason, & Vachon, Voyager/Sopris West) (multisyllabic words and reading fluency). Intermediate and secondary www.sopriswest.com
- Morphology (Henry & Redding, PRO-ED)
    - Patterns for success in reading and spelling
    - Pro-Ed Inc. Website

Structural Analysis

Breaking apart words by prefixes and suffixes (affixes) and other meaningful units.

pre/scrip/tion

Glass Analysis Method

Easier to Learn, Box 329, Garden City, NY 11530

- Identify the whole word and the letters and sound of the target cluster
- Give the sound(s) and ask for the letter or letters
- Give the letter or letters and ask for the sound(s)
- Take away letters and ask for the remaining sound
- Say the whole word

1. The word is carpenter.
2. What letters make the /er/ sound? The /ar/ sound? The /car/ sound?
3. What sound does the letters “ar” make? “ter”? “en”?
4. Say carpenter without the /c/ sound. Say carpenter without the /ter/ sound.
5. The word is carpenter.

Three Skills for Pronouncing Multisyllabic Words

Analysis: Where to divide a written word into syllables
Pronunciation: How to pronounce the individual syllables
Synthesis: How to combine the syllables into a spoken word.

Beck, I. L., & Beck, M. E. (2013). *Making sense of phonics: The hows and the whys* (2nd ed.). New York, NY: Guilford Press.

inv-is-ib-i-li-ty

in-vis-i-bil-i-ty

Affixes

Introduce the prefix or suffix in isolation. Underline the affix in words. Practice reading the word part. Have students read the word twice.

1. Read the prefix or suffix, say the entire word.
2. Read the entire word.

friction instruction deduction

REWARDS Strategy

- Circle the prefixes.
- Circle the suffixes.
- Underline the vowel in the root word.
- Draw scoops under the parts and say: What part? What part? What part? What word?

Tips for Teaching Fluency

1. Multiple readings improves speed and accuracy (three to four times)
2. Instructional level text
3. Decodable text with struggling readers
4. Short, frequent periods of fluency practice with concrete measures of progress

Adapted from: Meyer, M. S., & Felton, R. H. (1999). Repeated reading to enhance fluency: Old approaches and new directions. *Annals of Dyslexia, XLIX,* 283-306.

Interventions for Reading Fluency

- Rapid Word Recognition Chart
- Speed Drills
- Repeated Readings
- Books on CD
- Great Leaps

Rapid Word Recognition Chart

Method for practicing quick word reading

1. Use a chart composed of five rows of 6 irregular (or high frequency) words.
2. Time how long it takes the student to read the chart.
3. Count and record number of words read successfully.
4. Review any missed words.

Source: Carreker, S. (2005). Teaching reading: Accurate decoding and fluency. In J. R. Birsh (Ed.). *Multisensory teaching of basic language skills* (2nd edition). Baltimore, MD: Paul Brookes.

Great Leaps Reading (C. Mercer & K. Campbell)

Daily timing (one-minute each) and charting of three areas: Phonics: sounds in isolation to cvc, cvvc, cvce patterns; Sight Phrases; and Stories

Versions for all levels:

- K-2 (also has a Sound Awareness section)
- Grades 3-5
- Middle school
- High school

- Adult

1-877-GRLEAPS or www.greatleaps.com

Increasing Fluency

- 15 minutes of time to read aloud to an adult who will help with the difficult words, three times a week for at least 10 weeks
- Provide choices among text that can be read with more than 85% accuracy.
- Use both repeated reading and continuous reading -listener provides assistance as needed
- Use methods to improve decoding and build vocabulary.

Source: Beach, K. D., & O'Connor, R. (2014) Developing and strengthening reading fluency and comprehension of poor readers in elementary school: A focused review of research. *Perspectives on Language and Literacy, 40*(3), 17-19.

Mindplay Virtual Reading Coach

- Builds an individualized prescriptive plan for each student.
- Provides as much feedback and repetition as needed.
- Puts students in charge of their own learning
- Increases all aspects of reading (phonological awareness, phonics, fluency, grammar, vocabulary, and comprehension).

MindPlay Virtual Reading Coach

Goal: All students reading at grade level

- **Student requirements**
  - 30 minutes a day, 5 days a week using MVRC
- Change happens within 10 hours
- Gains start to happen at 25 - 30 hours
- Most students reach grade level within 50 hours of use

MINDPLAY TEACHER COMPANION

An on-line course developed and written by Nancy Mather, Ph.D., Blanche Podhajski, Ph.D., Janice Sammons, Ph.D., and Marilyn D. Varricchio, M.Ed.

- Increases teachers' understanding of English language structure and research-based reading instruction.
- Demonstrates scientifically-based reading instruction using MVRC
- Provides 8 hours professional development credit

Knowing what is needed to help students is not the same thing as being able to provide it.

Kauffman, J. M., Lloyd, J. W., Baker, J., & Riedel, T. M. (1995). Inclusion of all students with emotional or behavioral disorders? Let's think again. *Phi Delta Kappan*, 542-546.

“One of the most important conclusions from research is that for children with learning problems, learning is hard work. A corollary to this finding is that for their teachers, instruction is very hard work and requires an enormous amount of training and support. Children who have difficulty learning to read or completing mathematics problems will likely not benefit from ‘more of the same’ but require an alternative method of teaching to assist their learning.”

Source: Semrud-Clikeman, M. (2005). Neuropsychological aspects for evaluating learning disabilities. *Journal of Learning Disabilities, 38,* 563-568.

The Solutions

- Early intervention with a structured, systematic phonics program is critical, followed by methods to increase reading rate, build grammar and vocabulary, and improve comprehension.
- Highly trained teachers and technology are the keys to ensuring that all children learn to read.
- All school personnel have an obligation to understand and meet the needs of struggling readers in all grades.

Solutions

- Be eclectic in methodologies.
- Select reading interventions based on a student’s developmental levels.
- Ensure that teachers have adequate time to teach reading.

January 27, 2014, 04:00 pm Make dyslexia a national priority by Sally E. Shaywitz, M.D. and Bennett A. Shaywitz, M.D Rep.

Bill Cassidy (R- La.) has introduced a House Resolution on Dyslexia (H.Res. 456, 113th Congress…“As physician-scientists, we have seen the devastating impact on children and families resulting from the failure by our schools to recognize and address dyslexia; as scientists we know the powerful scientific knowledge that both explains dyslexia and offers an evidence-based route to remediation. Often we wish there were more knowledge to address a problem. In the case of dyslexia, we have the knowledge to do much better for our children and our nation and **so rather than a knowledge gap, there is an action gap** which H.R. 456 – by bringing science to education - takes a major step to close.”

“The ultimate power of text is not from it’s understanding but from its broader interpretation, its critique, its extension through the reader’s own knowledge and thought and to the reader’s own needs and interest… It is this power, most of all, that we want to give all our children.”

Source: Adams, M. J. (1990). *Beginning to read: Thinking and learning about print.* Champaign, IL: Reading, Research and Education Center.