How and Why We Need to Assess Reading for Children with Specific Language Impairment

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A few things to consider...

• More than half of the ~7000 languages in the world have no written form
• There are no languages that have a written, but not spoken, form
• Written language is a more sophisticated form of language
Some differences between oral and written language

Word length is less in oral language

Oral language uses shorter sentences and less varied (and simpler) syntactic structures

Spoken language employs a smaller variety of words

The role of punctuation is very important in written language, much less so in oral language
Need to view language from a hierarchical perspective

Assume normal auditory acuity and auditory perception; then the developmental hierarchy is:

– Oral receptive language, then
– Oral expressive language, then
– Written receptive language (reading), then
– Written expressive language (writing)

Deficits in a lower aspect of language functioning can be expected to impact higher levels
Oral language and reading

• Children with SLI are up to FIVE TIMES more likely to develop reading disability than children without language impairment (Catts et al, 2001)

• Given that RD impacts 5-7% of the general population, this means that up to one-third of kids with SLI will develop RD. Many others will experience subclinical reading difficulties.
What aspects of language impairment impact reading?

• Nearly all areas of oral language show some relationship, although in general
  • *Listening skills* are more strongly related than *speaking skills* (Bishop and Adams, 1990)
  • Those receptive skills most implicated are:
    – Phonological awareness (and especially phonemic awareness, which impacts word attack strategies when reading)
    – Vocabulary (reciprocal relationship with reading)
    – Comprehension (although a ‘pure’ comprehension deficit that affects reading is considered an oral language disorder in DSM-5)
    – Syntax (similar in oral and written language)
    – Working memory (especially impacts comprehension, but also decoding)
But expressive skills are also important

- Rapid naming has been especially implicated
  - Letter naming proficiency strongly predicts later reading achievement (Adams, 1990)
    - Considered by some to be a marker
    - Strong experiential component; shows role of pre-literacy experiences on subsequent reading achievement
Double-Deficit Hypothesis

• Proposes that a particularly potent hindrance to reading acquisition is the combination of
  – Phonological processing deficits and
  – Rapid Automatic Naming (RAN) deficits
  • Bowers and Wolf, 1993; Wolf and Bowers, 1999

Considerable research has supported the double-deficit hypothesis, although phonological processing deficits appear to play a bigger role than RAN deficits
Given that oral language problems can lead to reading disability, we need to detect problem areas and provide timely, early interventions.

Bishop and Adams (1990): If the oral language problems are resolved by age 5 ½ years, reading development proceeds normally; if not reading difficulties can be expected.
What aspects of reading should we be concerned about?

• All areas can be impacted by oral language problems:
  – Word identification (single word reading)
  – Word attack (nonword reading)
  – Reading fluency
  – Vocabulary
  – Reading comprehension

It is essential to create a reading profile and determine the child’s individual pattern of strengths and weaknesses. No two children have the same profile!

Further, other factors (mental ability, memory abilities, reasoning and conceptualization skills, etc.) should be used in planning the optimal intervention(s)
Let the assessment inform the intervention

• Too often an off-the-shelf commercial program is used, simply because it is ‘research-based’ and available

• Today the knee-jerk reaction often is to first utilize a phonological processing intervention because of the demonstrated importance of these skills in reading acquisition

• Good practice matches the intervention with knowledge of the child’s strengths and weaknesses
What interventions to use? Who determines ‘best practice’?

• In 1997 Congress created the NATIONAL READING PANEL (NRP), consisting of a number of recognized experts in the field

  – Task: review all published work (1000s of studies)
  – Determine which studies demonstrated efficacy as shown by meaningful effect size
  – Consider methodological problems, rejected most studies
  – Summarize: What works, what doesn’t work, and under what conditions
  – The NRP released its results in 2000
NRP has been very influential

• And subsequent years of research have added to (and largely supported) what NRP had to say

  – Set guidelines for what constitutes efficacy and ‘research-based’
  – Provides examples of recommended activities
  – Also provides caveats/warnings
What interventions are effective?

• **Phonological Awareness interventions work!**

  1) PA can be taught, and is effective with all types and ages of children under many teaching conditions
  2) Small groups, 30 minutes/session, 20 hours total is sufficient
  3) Integrate with print for best results
  4) Teachers deliver better than computers
Need to consider age/developmental level of the child

Types of Phonological Awareness Activities

- Rhyming games/activities/songs
- Focus on beginning/ending sounds, e.g., “Say a word that begins with the last sound of the previous word”. Example: house-sock-key-easel-lollipop-paint
- How many sounds/syllables/words do you hear- count, tap, use blocks/chips
- Auditory analysis and synthesis tasks- segmenting and blending
- Elision- “What happens to ‘split’ if you remove the /p/ sound”? 
What interventions are effective?

• **Phonics instruction works!**

  – Linking of sounds to letters
  – Synthetic phonics and larger-unit phonics are especially beneficial
  – Improves most every aspect of reading
  – Long-term treatment (2+ years)– thus a need to maintain motivation (on all ends)
  – Most effective with younger kids, not recommended with adolescents/adults
Phonics Instruction (cont’d)

- Word Attack Hierarchy Approach

- Point out word error, say “Try another way”
- “Finish the sentence and try to guess the word”
- “Break the word into parts and pronounce each one”
- Present one part of the word at a time (note card): “Sound out this part”
- If all of this is unsuccessful (4 misreads), supply the word
Phonics Instruction (cont’d)

- Error Word Drill

- When a word is misread, enter it into the “Error Log”
- At the end of each session, write down each misread word on an index card (maximum of 20; if necessary, use old errors too)
- Review each word. If read correctly, remove from deck
- Missed words are pronounced for the child, child is asked to repeat, and card is placed back in the deck
- Multiple decks: recent errors, continuing errors, has read successfully but hasn’t demonstrated command, etc.
Resources for phonics instruction


• Cunningham, P and Allington, R (2011) *Classrooms that work: They can all read and write, 5th Edition.* Boston: Allyn and Bacon
What interventions are effective?

- **Fluency instruction** (in many forms) works!
- Reasonable progress = ~1 wpm/week
- DON’T IGNORE COMPREHENSION WHILE BUILDING FLUENCY!!!

  - One approach: *Guided oral reading with feedback* ("Assisted Reading")
    - Positively impacts fluency, decoding and comprehension
    - Pauses > 5 seconds – provide word, ask child to repeat it and continue
    - Parents can provide this intervention about as well as teachers

  - Helpful for all ages
Fluency Instruction (cont’d)

• *Paired Reading*

• Student reads in tandem with accomplished reader
  – Correct errors, ask child to repeat
  – Encourage child to ‘take over’ and read solo by signaling desire via tap on the hand
  – If pause > 5 seconds, provide word, ask child to repeat, and begin reading in tandem again
Fluency Instruction (cont’d)

• *Repeated Reading*

• Child reads a passage (100-200 words) aloud repeatedly

• Correct errors or provide words when pauses exceed 3 seconds

• Repeat process until either
  – Passage has been read four times, or rate exceeds a targeted wpm
Fluency instruction references


What interventions are effective?

• *Strategy instruction* improves text comprehension!

  – A variety of methods were effective: comprehension monitoring, cooperative learning, graphic organizers, question generating, summarizing
  – Learning a *mixture of strategies* is particularly beneficial
  – *Modeling/scaffolding* is very helpful, thus teacher skill is important
Comprehension Training (cont’d)

• *Prior Knowledge*: Activate the known

• Emphasize that new information only makes full sense when related to what we know

• Demonstrate how text prediction works
  – Present main idea first to group
  – “What do you know about this?”
  – “What do you think might be said about this topic?”
  – “Now read the story”
Comprehension Training (cont’d)

- **Reciprocal Teaching**

- Use overheads of selected text
  - On successive days, introduce strategies
    - Prediction
    - Summarization
    - Question generation
    - Clarifying

Have student ‘instructors’ guide the class in applying each strategy
Develop independent use of strategies with experience
Comprehension Training (cont’d)

‌Question Generation

- Using overheads, show children how to identify ‘main idea’ sentences
- When main idea is implied, not stated explicitly, show how to identify key facts/ideas
- Demonstrate how to write a ‘gist’ sentence
- Model how a ‘gist’ sentence can be turned into a question
Comprehension Training (cont’d)

- Development of *Mental Imagery* as a comprehension aid

- Use expository or narrative passages that elicit images easily
- Encourage students to ‘make pictures’ in their minds and carefully study pictures and illustrations
- Use ‘think-alouds’ to describe your images and encourage students to do same
- Introduce new passages and stop at key points to have student(s) describe their imagery
Comprehension Training (cont’d)

- **Main Idea Maps/Graphic Organizers**
  - Dozens available at [www.edhelper.com](http://www.edhelper.com) and [www.eduplace.com](http://www.eduplace.com) (among others)

- Use short (4-6 paragraph) story
- Build Graphic Organizer
  - Title of story in center box
  - Around periphery, add individual paragraph main ideas (can be explicit or implied)
  - Add 2-3 facts, ideas or supporting details within each main idea
  - Demonstrate how to use the Graphic Organizer as a study tool (Think-aloud)
Comprehension Training (cont’d)

• **Comprehension Self-Check**

• Utilize checklist to ask:
  – “Did I understand the sentence?” If not, re-read it, read next sentence, look up any unknown words, ask for assistance, etc.
  – “What did the paragraph say?” If not, re-read and make sure sentence-level comprehension is OK
  – “Do I remember what the entire page said?” If not, re-read each paragraph again
Comprehension references


Technology and Reading Disability

• Many advances in recent years
• Surprisingly affordable in most cases
• Trend has moved away from remediating to accommodating in recent years. Starting at earlier ages now (5th-6th grade in many cases)
Technology (cont’d)

• Recorded Books

---Thousands of textbooks used in the United States are available through Learning Ally (formerly Recordings for the Blind and Dyslexic)
---Books for pleasure and books for literature classes, read by professional actors, can be rented through Recorded Books Rentals
---Most states also sponsor a state-funded Books Aloud program through their public libraries
---Many eReaders also allow for book to be read aloud
---Even after a person with reading disability has learned to read, recorded books are useful, especially in high school and college, where it may prove impossible to read fast enough to keep up with the course demands
Technology (cont’d)

• Reading pen/ Scanning pen
  – IRIS
  – Readingpen Basic Edition
  – Also others: Smart Pen

• Kurzweil Reader (1000, 3000)
  – Powerful tool to read almost any text in any format
  – www.kurzweiledu.com/k3000introvideo.html
Technology (cont’d)

• Intel Reader

• Transforms printed text to the spoken word.
  – Combines a high-resolution camera with an Intel processor.
  – Weighs a pound and is about the size of a paperback book--portable
  – Can also be used to scan, convert, and store multiple pages from a book or magazine.
Literally hundreds of products are available

Dyslexic.com: http://www.dyslexic.com
website (U.K.) has many examples of what’s out there

www.dyslexiclikeme.org/products is also a good resource
Thank you!