

PHONOLOGICAL PROCESSING SKILLS:

A Key to Language Learning, Reading and Writing

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Session Objectives

1. Present Overview of two primary phonological skills :
 - ➔ Phonological Awareness
 - ➔ Phonological Memory
2. Show how these skills are essential in language and literacy acquisition
3. Demonstrate a simple tool for screening learners for these skills
4. Provide suggestions on how to target specific weak skills that may be impeding learning

One key skill: Phonological Awareness (PA)

- Phonological awareness: Awareness of how the sound system of any given language works:
 - Language consists of chunks of sound words, strings of words, syllables, rhyme,
 - In *alphabetic languages*—awareness of phonemes (smallest unit of sound) and their relation to print
- Awareness develops very early and gradually—but may be flawed

Phonological awareness (PA)—the foundation of language

- Also includes awareness of
 - Rhythm of language (meter, rhyme)
 - Stress
 - Intonation
- Higher level PA develops with literacy, especially in English: It includes:
 - Pronunciation of chunks of words—especially newer, longer words
 - Understanding how stress moves for meaning
 - Learning how morphological pieces carry meaning: --en = verb; er/or = person; -ive = adjective; bi= two
 - Awareness of regularities of spelling from other languages: e.g. Greek: ph=/f/ French: pronunciation of final e: resu^me, entr^ee, franc^ee.

PA: Key to reading

- Bilingual children learning to read in two languages at once:
 - Those who had PA problems had trouble learning to read in English
 - More regular language was easier to read
- PA weaknesses highly associated with difficulties in reading new language in older learners also
 - When PA was directly taught to adults attempting literacy, literacy developed further, was retained better

The other key skill: Phonological Memory (PM)

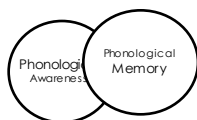
- Ability to record "novel" sound— sounds never heard before
- Includes new words, new sounds, new strings of language (idioms, "the way they say it in ____")
- Aided by-- but not entirely dependent on-- articulation (i.e. must hear sounds accurately for them to be "mapped" on the brain correctly)

Phonological memory

- Children with strong PM in studies:
 - Had larger vocabularies
 - Used and understood more complex syntax, longer utterances
- Strongly associated with "foreign language learning"—ability to acquire vocabulary, idioms
- Use of PM diminishes in first language (and presumably in new language) as store of sounds, words, phrases grows—brain refers to store rather than memory for new sounds

Two key skills:

- Overlapping but separate skills



Overlapping but separate?

- Good PM—poor PA:
 - Great oral fluency; great auditory comprehension
 - Reading and writing may be difficult to nearly impossible (dyslexia)
- Good PA—poor PM:
 - Read and writing strong in new language
 - Speak or understanding very difficult (note implications for placement in your programs.....) (expressive language disorders)
- Some schools permit students with one strength or the other to take special FL track: Spanish (Great PM); Latin (Great PA)

Phonological skills in Native English Speakers (NES)

- Should develop normally—
- Purpose of pre-school, kindergarten, much children's literature for very young children is to build PA as much as possible
- Children found to be at risk for reading difficulties are often found to have weak PA; it is targeted as part of remediation
- Some have more persistent weaknesses into adulthood: Weak readers you may encounter may have
 - Inability to hear and produce rhyme
 - Inability to segment words accurately—syllables, phoneme manipulation
 - Poor understanding of function of phonemes
 - Confusion over sounds in medial and final positions
 - Poor association of sounds to letters
 - Non-fluent reading exacerbates PA weakness—rhythm of language is not attained

Phonological skills

- PA can be strengthened through direct instruction of skills found to be weak.
- The student should be aware of what those weaknesses are and help you find ways to strengthen them.
- It may be a difficult process for some severely reading-challenged adults:
 - A student I worked with who was in her 40s spent almost three years in an adult remedial reading class (and many attempts in other schools) and while she learned to decode (sound out) words, she was unable to actually READ at all. She had NO ability to hear and produce rhyme. I tutored her outside of her class work. It took 6 months of a few minutes of work on this weakness twice a week for the dam to break as it were. One day she was able to generate strings of rhyming words (map, cap, lap, top) where before she could not. Once this happened, she moved quickly into normal reading of her literacy level text and then into everyday reading, reporting she could finally read the ad on the bus she rode every day!
 - Variety of activities targeting the weakness and persistence will do the trick!

Phonological skills:

- PM seems to be relatively easy to improve with highly specific practice (more on this)
- PM is impacted by difficulty hearing unfamiliar sounds of English or sounds in a new language correctly
 - Normal problem for adult learners: difficulty repeating unfamiliar names, place names etc.
 - Research shows sensitivity to stress affected by L1
 - Some native speakers have low sense of stress in words—can't hear it or reproduce it
 - ✦ Perception may be easier than production—also normal
 - ✦ Correct production is affected by the brain's ability to command the speech equipment to formulate sounds (which is what is remediated by speech therapy).

Evaluating phonological skills

- WHO should be evaluated?
- Phonological processing skills should be evaluated in every student who is not reading fully normally as an adult that had normal schooling.
 - Students may have only slight weaknesses on direct evaluations but still be strongly affected in reading and writing.
 - ◻ NOTE that poor SPELLING may be related to poor PA; very often, however, it has to do with poor VISUAL memory, NOT a phonological skill.
 - Strengthening syllable awareness and skill can increase reading accuracy tremendously in adult readers.
 - The conventional wisdom in learning disabilities for decades has been that a student MUST be able to hear and produce rhyme to read well.

Tasks for evaluating phonological awareness:

- Rhyme (perceive it)—critical element to English—without it, all words are separate and new (c—at, p—ane)
- Chunks of sound:
 - Number of words
 - Number of syllables
 - Number of phonemes
- Elision —removing an element in a word and saying the new word (also called "deletion")

Tasks for evaluating phonological memory:

- Producing rhyme (note that PA was hearing rhyme)
- Repeating sentences
- Repeating low-frequency (i.e. unfamiliar) words
- Repeating nonsense words
- BUT—NO digit span—memory affected by word retrieval, length of words, etc.

Strengthening phonological skills

- **When?** ALL THE TIME!
- **Where?** In class, in groups, with individuals, in tutoring, in conversation
- **How?** A variety of activities; build into existing curriculum, activities; include in every reading lesson; for students with weak P.A. designate 10 minutes of each lesson for explicit PS work

Improving auditory perception to enhance phonological memory:

- Minimal pairs (see handout)
- Slowed speech
- Visible feedback (visigraph??)(an PHONE!)
- Accent reduction techniques (see youtube)
- If severe, speech therapy with speech pathologist may be needed
 - **IF SP does not pathologize pronunciation differences**
 - **NOTE:** Asking student to repeat 50 times without instruction in what he/she is doing is NOT HELPFUL!!!!

Creating an awareness of sound in language:

- Teach metacognitive approach to language and sound:
 - Discuss what the difference is between sounds and language
 - Talk about whether we can make all sounds of all languages (at birth, yes- later, not so much!)
 - Discuss what happens in any language when you change certain sounds (e.g. dog/dogs; went/bent; call/called tip/tap)
 - Have student generate lots of examples of whatever you are doing (e.g. minimal pairs, rhymes, words with X number of syllables, words with lots of letters but few phonemes, [high; bought, know])

Creating an awareness of sound and language:

- What happens in English when we add /s/ to
 - Words like book, car, building?
 - Tom, my sister, the cat? (2 possibilities)
- When we add /s/ to eat, read, write?
- How have we changed ride to rode? Eat to ate?
- What kind of sound chunks are we adding to -port- when we add re-, dis-, im-, trans-? When we add -ed, -tion, -er, -ing?

Sound, language and print

- **Sounds are arbitrary—**
 - They are systems we humans developed to convey meaning within a group—babies within a group learn those sounds; twins often develop “interlanguage”—babies can learn virtually any sounds
- **To have a permanent record of sound, we had to develop a set of symbols that represent the sounds we say—**
 - And the written code must represent all the ideas just discussed in some way or another—this becomes spelling and grammar

Boosting phonological processing skills:

I've included a number of handouts to give you ideas and guidance on how to strengthen these skills in YOUR learners.

Remember to check these skills for ANY student who comes to you with reading challenges AFTER you have checked the visual skills and visual stress syndrome.
