Phonemic Awareness, Phonics, and Fluency
The Fear Factor

Joann Doyle, MS CCC-SLP
SLP Literacy Academies
National Reading Panel and other research has clearly documented the importance of incorporating phonemic awareness, phonics, and fluency in reading instruction.

There is clearly a connection between these skills and accurate and fluent word recognition.
Who’s at risk

“It is well established that children with a history of spoken language delays and difficulties are at risk for subsequent literacy problems, understanding the nature of this risk still presents an important challenge both to reading specialists and speech-language professionals.” (Snowling, 2004)
Recent studies have shown it is possible to make good predications of reading outcomes based largely on early language factors.

(Catts, Fey, Zhang, & Tomblin 2001)
Catts et al (2001)

- 5 variables that could provide an 88% probability of children having reading problems:
  - Sentence Imitation
  - Letter Identification
  - Phonological Awareness
  - Rapid Naming
  - Mother’s Education
Using spoken language disorders as the criterion approximately 73% of the students who later experienced reading delays could have been identified by age 3 or 4 years (Fey 1995).

When speech/language services are targeted for spoken language only they do not seem to impact reading and literacy directly.

Fey suggests that it is necessary to supplement traditional speech and language intervention with a focus on print and phonological awareness. (1995)
Phonological Processing
Phonological Processing Skills

- Alphabetic languages represent language at the phoneme level (i.e. letters typically correspond to phonemes in words).
- Almost all poor readers have a problem with phonological processing.
Phonological Processing Skills

- Phonological Memory
- Phonological Access
- Phonological Sensitivity
Phonological Memory

- The ability to hold sound based information in immediate memory
- Better PM may increase the likelihood that the phonemes associated with the letters of a word can be maintained in memory while decoding, freeing more cognitive resources for decoding and comprehension.
Phonological Access (Retrieval)

- The retrieval of sound-based codes from memory.
- Better phonological access may increase the ease of retrieval of phonological codes associated with letters, word segments, and whole words from memory, making it more likely that they can be used in decoding.
Phonological Sensitivity (phonological awareness)

- The ability apprehend and/or manipulate smaller and smaller units of sound
- Better phonological sensitivity facilitates the connection between letters and the sounds they represent in words.
Phonological Awareness

- The term began appearing in the research literature in the late 1970’s and early 1980’s.
- Refers to an individual’s awareness of the sound structure of a spoken word.
- Relates directly to a child’s ability to decode words and to spell.
- Explicit awareness of the phonological structure of a word helps children draw connections between the spoken form of a word and its written form.
Why is Phonemic Awareness Difficult for Some Children?
The Problem of Coarticulation

/d  a  g/

"dog"

C. Haynes, 1997
(Thanks to A. Liberman.)
Usefulness of PA Assessment

- A measure of phonological awareness in kindergarten predicted 2\textsuperscript{nd} grade word reading beyond a measure of letter identification.
- The best predictor at 2\textsuperscript{nd} grade of word reading ability is word reading and a measure of phonetic decoding added unique information.
- There is a reciprocal relationship between PA and reading and spelling.
- (Hogan, Catts, Little: 2005)
PA & Children with Speech Impairment

- Is closely related to the severity of the phonological disorder and level of phonological awareness. (Catts & Kamhi: 1999)
- Receptive-based assessments of underlying phonological representations provide clinically relevant information for children with speech impairment. (Sutherland & Gillon: 2005)
- Data provides evidence to support integrating activities to develop PA and letter knowledge into therapy for 3 & 4 year old children with moderate of severe speech impairment. (Gillon: 2005)
Possible Roles of the SLP - PA

- Provide phonological processing assessment as part of the test battery
  - (CELF-4: Phonological Awareness, Number Repetition, Recalling Sentences, Word Associations, Familiar Sequences, & Rapid Automatic Naming
  - ITPA-3: Word Discrimination, Phonemic Analysis, Sight Decoding, Sound Decoding, Sight Spelling, Sound Spelling
  - TOLD-P3: Sound Deletion, Rhyming Sequences
  - Test of Auditory Processing Skills (TAPS)
Case Study

- Female: kindergarten repeater, CA 6-0
- Enrolled in language therapy – only disability
- TOLD-P3: SLQ 70/Listening 88 /Speaking Q 79
- DIBELS: Initial Sound Fluency MR (20-40%), Letter Name Fluency LR (at or above 40%)
- Supplemental Subtests TOLD
  - Word Discrimination subtest SS 5/5%
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- CELF-4: Sentence Imitation-SS 4, Phonological Awareness-Below Criterion, Number Repetition-forward SS 5, reversed SS 2, total SS 3, RAN-Criterion Non-normal
- (CTOPP – PA SS 89, PM SS 72, RN SS 67)
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- Male: 2nd grade repeater, CA 9-4
- Enrolled in language therapy, only disability
- TOLD:P3: Spoken Language Q SS 76/ Listening Q SS 73/Speaking Q SS 79
- DIBELS:
  - 2004-2005 (end of yr) Nonsense Word Fluency 32 MR, Oral Reading Fluency 48 HR
  - 2005-2006 Nonsense Word Fluency 48 MR, Oral Reading Fluency 38 MR
Levels of Phonological Awareness (Gillon 2004)

- **Syllable Awareness**
  - Awareness that words can be broken up into syllables, each syllable in a word contains a vowel

- **Onset-Rime Awareness**
  - Is shown at the intra-syllabic level
  - The onset of a word is the consonant or consonants that precede the vowel, and the rime is everything after the vowel (e.g. c-at or bl-ack)

- **Phonemic Awareness**
  - Awareness at the phoneme level
Syllable Tasks

- Syllable Segmentation: “How many syllables or words parts in fantastic?”
- Syllable Deletion: “Say rabbit, now say it again but don’t say ra.”
Onset-Rime Tasks

- **Spoken rhyme recognition:** “Do these words rhyme: cat-bat?”
- **Rhyme oddity task:** “Which word does not belong: cat, hat, fish?”
- **Spoken rhyme production:** “Tell me a word that rhymes or sounds like fish.”
- **Onset-rime blending:** “What word is this: f – ish?”
Phonemic Awareness

- Alliteration: “Which word has a different first sound: bat, hat, ball, boy?”
- Phoneme matching: “Which word begins with the same sound as bat: hat, fish, bed?”
- Phoneme isolation: “What is the first sound in the word pig?”
- Phoneme blending: “What word do these sounds make: /k/ /a/ /t/?”
Phonemic Awareness Tasks

■ Phoneme deletion: “Say stick, now say it again but don’t say /s/.”

■ Phoneme segmentation: “Tell me the sounds in the word bus.”

■ Phoneme reversal: “Say back now say it backwards”
Levels “Just Read, Florida”

- Phonological Awareness
- Rhyme & Alliteration
- Sentence Segmentation
- Syllable Blending & Segmenting
- Onset-Rime Blending & Segmenting
- Phoneme Segmenting & Blending
The goal of PA intervention is to enhance reading & writing performance.
Possible Roles

- Assist with DIBELS with students that have severe speech problems
- Train and provide model for how sounds are made
- Provide PA for students on caseload, in a push-in model could include other students in the classroom that are having problems
Consonant Phoneme Chart

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Vowel Chart (Moats, 2004)

- ē: see, these, me, eat, key, happy, chief, either
- į: sit, gym
- ā: make rain, play, great, baby, eight, vein, they
- ē: bed, breath
- ā: time, pie, cry, right, rifle
- ĭ: fox, swap, palm
- ū: vote, boat, toe, snow, open, go
- ŏ: took, put, could
- ō: saw, pause, call, water, bought
- ò: cup, cover, flood, tough
- ū: moo tube, blue, chew, suit, soup
- oi/oy: oil, boy
- ou/ow: out, cow
- er: her, fur, sir
- ar: cart
- or: sport
Intervention in PA

- Select a story that you enjoy reading with your students.
- You can select words for articulation intervention as well as words for PA. They may be slightly different.
- You can use the same book for selecting vocabulary words to teach.
Where the Wild Things Are

WHERE THE WILD THINGS ARE

STORY AND PICTURES BY MAURICE SENDAK
Artic Word Bank

- **Sh**
  - gnashed
  - ocean
  - ferocious
  - showed
  - shore

- **S/Z**
  - Max
  - scales
  - sailed
  - waves
  - ceiling
  - forest
  - scary

- **R**
  - rumpus
  - forest
  - dragon
  - roar
  - terrible
  - rolled
  - silver

- **L**
  - wild
  - wolf
  - scales
  - terrible
  - love
  - tumble
Phonemic Awareness

- Students need solid phonemic awareness training for phonics instruction to be effective.
- Approximately 20-40% of children have difficulty with PA.
- Focusing on one or two skills is more effective than multiple skills e.g. segmenting and blending.
Phonological Awareness

- Phonological awareness involves rhyme, syllable awareness and phonemic awareness.

Alvin alligator always asks Alice if she likes ants.
Phonemic Awareness

- Phonemic awareness is not related to print, a child can have some levels of awareness before they learn the alphabet.
- Phonemic awareness activities are oral language activities, however once students can readily identify the letters of the alphabet activities should include letters. PA activities themselves will not insure success in learning to decode.
Factors that effect difficulty of PA activities

- Two factors that contribute to difficulty are
  - the memory requirements of the task and
  - the characteristics of phonological units.
Memory Requirements of the Task

- Difficulties in short term memory will impact the ability of the student to recall sounds and words.
- A task such as tell me the sounds in cat /c/ /a/ /t/ requires less memory than asking them to reverse sounds in words. (e.g. Say pat now say it backwards: tap)
- Using pictures with younger children decreases the memory requirement.
Characteristics of phonological units to be considered

- Position in word – initial and final easier than medial.
- Number of phonemes in a word – cat is easier than sand.
- Size – compound words are larger than phonemes.
- Phonological properties – continuants, such as /m/, are easier than stop sounds, such as /t/.
  - Phonological Awareness Dimension – rhyme is easier than segmentation.
Phonological Awareness & Phonics

- Model, model, model... then have the student do the activity. Don’t hesitate to draw attention to how the sound feels as in articulation activities.

- Most poor readers have weak phonological sensitivity, even student’s in intermediate levels as well as middle and high school students.
Phonological Awareness & Phonics

- Make phonological awareness instruction explicit. Use concrete objects to assist with mental manipulation of sounds – use a marker while saying the phoneme and with students who know their letters use letters in manipulation tasks.

- Show me the sounds in *cat*...

  - Show me the letters you hear in *cat*...
Use Elkonin or Sound Boxes
Sound Boxes

church
Creating a PA activity from selected Literature

Books

- Select a favorite book that you like to read to your students.
- Use the following template to create your own PA activities.
- Be sure to pick out the most interesting vocabulary.
- Keep in mind the PA level of your students so that the activities are appropriate.
WHERE THE WILD THINGS ARE

STORY AND PICTURES BY MAURICE SENDAK
Where the Wild Things Are

Sample vocabulary for PA:
- wild
- wolf
- ceiling
- ocean
- sailed
- rumpus
- mischief
- forest
- vines
- private
- someone
- into
Phonological Awareness Developmental Continuum

Rhyming

Syllable: blending & segmentation

Onset-rime: blending & segmentation

Phoneme: blending & segmentation

Phoneme: deleting & manipulation
Rhyme Level

“Do _______ and _______ rhyme?” (recognition)
- wild/mild
- boat/bet

“Tell me a word that rhymes (sounds like) _______.“ (production)
- boat
- wall
Syllable Level

- “What word is this _____?”
  - rum-pus
  - some-one

- “How many syllables (word parts) in _____?”
  - supper
  - ceiling

- “Say _______ now say it again, but don’t say ______.”
  - someone/some
Onset-rime Level

- “What word is this?”
  - w-ild

- “Tell me the sound(s) at the beginning of this word _________.
  - cl-aws
“What word is this?” ______
- /v/ /ɪ/ /n/ /z/
- /w/ /ɪ/ /l/ /d/
- /r/ /u/ /m/ /p/ /u/ /s/
Phoneme Isolation Level

- "What’s the first sound in the word ____?"
  - Max
- "What’s the last sound in the word ____?"
  - world
- "What’s the middle sound in ____?"
  - week
Phoneme Segmentation

- “Tell me the sounds in ______?“
  - terrible
  - things
  - hung
  - king
Phoneme Deletion Level

- Say __________, now say it again but, don’t say / /.
  - roar/r
  - wild/d
  - blink/b
  - grew/r
Phoneme Manipulation/Substitution Level

“Say ______, now change / / to / /.”
- teeth, now change /t/ to /r/: wreath
- rumpus, now change /r/ to /k/: compass
Remember

- Start with compound words.
- Beginning sounds are easier to hear.
- Model each activity for your students.
- Consonant blends are the most difficult and may not be acquired until third grade.
PA for Older Students
From Phonemic Awareness to Phonics

- Phonics is connecting the sounds to letters/graphemes.
- Phonics is taught in a sequence.
- Instruction should be explicit.
- Teach letter-sound correspondences in isolation.
From Phonics

- Teach phonemes are represented by graphemes. (Graphemes are letters or letter groups that represent phonemes)
- Move from phonemes to letters/graphemes or there will be very little impact on reading and spelling.
Graphemes

- Letters or letter groups that represent phonemes:
  - f- i- n- i- sh
  - h- igh- l- igh- t
  - /f/ /i/ /n/ /i/ /sh/
  - /h/ /I/ /l/ /I/ /t/
Role of the SLP in Phonics

- Help teachers understand to:
  - Separate auditorily and visually similar letters e.g. /i/ and /e/ or /b/ and /d/.
  - Introduce some continuous sounds early /m/ as opposed to /b/.
  - Introduce letters that can be used to build many words: a as in /a/ m, t, c, t.
  - Introduce letters that have single sounds should be taught first: b as opposed to c.
Role of SLP

- That many language impaired students don’t understand or use inflected morphemes.
- Articulation of sounds has an impact on how children spell:
Steps in Teaching & Learning Printed Word Recognition in English  
(Moats, 2000: Speech to Print)

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Use Elkonin or Sound Boxes

- Ship
- Cat
Bridging to Phonics

- How many sounds?  How many letters?
- wild: 4 letters, 4 sounds
- things: 6 letters, 4 sounds
- Max: 3 letters, 4 sounds
- private: 7 letters, 6 sounds
- night: 5 letters, 3 sounds
- sailed: 6 letters, 4 sounds
Phoneme Grapheme Mapping (Kathi Grace, 2005) 3rd Grade & beyond

- A technique to develop awareness of how graphemes map onto print.
- Map each **phoneme** into one sound box:

  - kn i fē
  - t ee th
## Phoneme-Grapheme Mapping

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* p. 17

LETRS: Moats 2005
# Phoneme-Grapheme Mapping

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Phoneme-Grapheme Mapping Grid

- Use this grid to support your instruction with students.
- Script the words you will ask your students to map.
- Scaffold further, if needed, by telling students exactly how many boxes are needed to represent the sounds in each of your words.

Kathi Grace: Phoneme-Grapheme Mapping & LETRS
### Phoneme-Grapheme Mapping

<table>
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<tr>
<th>Phoneme</th>
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From Phonics to Fluency
What is Reading Fluency?

- Automaticity is reading with no noticeable cognitive or mental effort.
- Fundamental skills are so “automatic” that they do not require conscious attention.
- Examples of automaticity:
  - Shifting gears on a car
  - Playing an instrument
  - Playing a sport
Components of Reading

Fluency

- Prosody
  - Expression, Intonation & Phrasing
- Automaticity
  - Accuracy & Speed
Role of SLP

- Include “precision teaching” or speed drills targeting specific skills (e.g. CVC words) into therapy
- Include instruction in phrasing, intonation, and prosody into fluent reading practice (sensitivity to syntax and punctuation).

(Kamhi, (2003) The Role of the SLP in Improving Reading Fluency)
Sample *Fischer* Speed Drill

rid  hid  hide  kit  kite  ride  hide  rid  hid  kit
ride  hid  kite  ride  rid  kit  hide  hid  ride  kit
hide  hid  kit  rid  kite  ride  hid  kite  kit  ride
id  hid  hide  kite  rid  hid  hide  kite  hid  ride  kit
ride  hid  kit  rid  ride  kite  kit  hide  hid  kit
ride  hid  kit  hide  rid  kit  kite  rid  hid  ride
(12 lines)  www.oxtonhouse.com
Fluency Activities

- Model fluency using prosody
- Choral read parts of a story
- Echo read parts of stories
- Mark phrasing in a big book with removable highlighting tape and model.
That very night in Max’s room a forest grew, and grew and grew...
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- ITPA-3: Sound Deletion-SS 9 37%, Rhyming Sequences-SS 7/16%, Sight Decoding-SS 8/25%, Sound Decoding-SS 8/25%, Sight Spelling-SS 7/16%, Sound Spelling-SS 10/50%
PA Activity
PA Websites

- http://www.fcrr.org/activities/
- http://141.104.22.210/VDOE/Instruction/Reading/findings.pdf
- http://teams.lacoe.edu/documentation/classrooms/patti/k-1/k-1.html