

# Strategies to improve reading fluency skills



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# Goals for this session

1. Discuss the areas of skill (e.g. letter pattern recognition, sight word development, efficient decoding) that must be developed to improve reading fluency
2. Use specific strategies to improve fluency, including repeat reading, sight word drills, development of vocabulary and semantics and increased speed of processing letter and syllable patterns
3. Measure student progress in reading fluency



# What do we have to treat? – *We'll discuss a few of these areas today*

- Building phonological awareness skills
- *Increasing speed and accuracy of decoding/word attack*
  - *Increasing speed of recognition of letter patterns*
  - *Increasing speed of recognition of syllable and word patterns*
  - *Decoding multi-syllabic words*
- *Recognizing Sight Words*
- *Word retrieval, semantics and vocabulary*
- *Putting it altogether for improved reading of connected text*
  - *Rate*
  - *Accuracy*
  - *Prosody*



# Decoding: Letter patterns

- Normal readers begin to recognize letter patterns rather than letters as individual units (Berninger, 1987,1991)
- How well they recognize letter patterns is associated with how frequently they have seen the patterns (Bowers et al 1994)



# Work for automaticity

- Read stimuli multiple times
- Correct any errors
- Pre-read stimuli to find any “hard” stimuli
- Use a timer



# Practice with letter patterns

- Using a card sort for letter patterns
- Using page speed drills for letter patterns





# Using PowerPoint to force speed

- Type the stimuli in
- Use custom animations
- Select the effects
- Select the timing
- fame
- tame
- same
- game
- lame



# Decoding: Multi-syllabic words

- Structural analysis – analysis of the internal structure of a word that permits decoding
- Requires the student to use knowledge of syllables and morphemes



# Decoding: Multi-syllabic words

- 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> graders who received instruction in both decoding and structural analysis improved more in reading and spelling than those who used a basal reader approach (Henry, 1998)
- 4<sup>th</sup> thru 7<sup>th</sup> graders improved word recognition when given explicit structural analysis instruction, especially in the alphabetic principle (Abbott & Berninger, 1999)

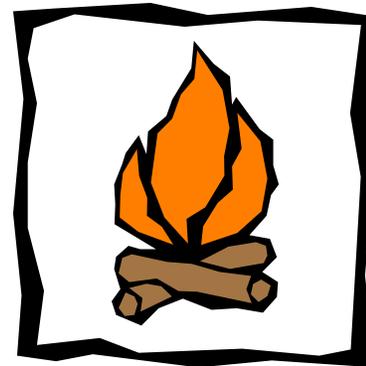


# Decoding: multi-syllabic words

- Understanding concept of syllables
- Counting # of syllables heard (segmentation)
- Counting # syllables in printed word
- Knowing where stress occurs
- Schwa in unstressed syllables
- Applying morpheme analysis to multi-syllabic words
- Dividing word into syllable parts
- Applying stress to the printed word

# Understanding concept of syllables

- Compound words



- Use students' names on cards cut into syllables



# Counting # of syllables

- Student first must be able to count the syllables when the word is said aloud
- Student must then be able to read the word herself and tell how many syllables there are
- Lots of phonological awareness materials and software (e.g. Earobics ®, Lexia, Reading Blaster)
- A more difficult skill is to divide the word into its syllable parts (more later)



# Understanding stress

- Stress at the word level occurs because one syllable is perceived as more prominent than the others
- Can use louder volume, higher pitch and/or lengthened vowels on that segment
- Primary
- Secondary
- Weak
- Usually not necessary to teach the student the difference in primary and secondary

# Understanding stress

- Important for the student to understand that where the stress is placed can change the meaning of what is being read
- greenhouse vs. green house





## Use students' names

- Have a student pronounce another student's name
- Write it on the board
- Indicate where the stress is heard
- Have students try pronouncing the name with stress on a different syllable
- Can also do this with famous names – let's try some



Pronounce the name with stress  
on the bold syllable

<b>Bugs</b> Bunny	Bugs <b>Bunny</b>	Bugs <b>Bunny</b>
<b>Dum</b> bledore	Dum <b>ble</b> dore	Dum <b>ble</b> dore
<b>Scoo</b> by Doo	Scoo <b>by</b> Doo	Scooby <b>Doo</b>

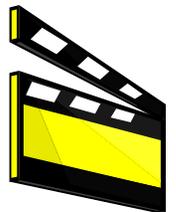


# The schwa

- This can confuse students as they try to pronounce (and spell) words with schwa in weak syllable
- Help student feel how lax (without tension) the mouth is when this sound is produced
- Students have to understand that many vowel letters can be pronounced as schwa when they occur in the weak syllable

# Dividing a word into syllable parts

- Estimate # syllables with dot under each vowel
- Look for beginnings and endings
- Start at end of word and work your way to the beginning
  - Find the last vowel and give it a consonant partner
- Break between double consonants
- Remember the open/closed rule





# Sight words (no decoding here...or is there?)

- Words recognized at a single glance (Ehri, 1992)
- Sight of the word activates the memory of how the word sounds and what it means
- Visual orthographic image is accessed directly
- Speed of reading familiar words is one measure to indicate that student is using orthographic and not phonologic route to reading (although research shows even the orthographic route may use some phonological processing)



# Sight words

- Speed of word recognition is an important marker for reading skill (Perfetti, 1985)
- Development of rapid word recognition skills is primary factor when distinguishing skilled from less skilled reading performance (Chabot et al 1984)
- Sight word efficiency is primary reason for decreased reading fluency (Torgeson, 2002)



## Sight words

- Deficits in word level recognition characteristic of students not reading at grade level (Perfetti, 1985; Stanovich, 1986)
  - Requires child to compute three types of codes:
    - Orthographic
    - Phonological
    - Semantic
- (Seidenberg & McClelland, 1989)



# What might interfere with learning sight words?

- Student must have good phonological awareness to develop sight word vocabulary (Ehri 1992; Perfetti 1992)
  - How would you do with these Greek words?
- Students have to be able to quickly retrieve words they know (this is indexed by naming speed) (Bowers et al 1994)



## Sight words

- Torgeson thinks reduced sight word vocabulary may be largely responsible for students who are accurate readers, but remain non-fluent
- There are too many words for the student to acquire in sight vocabulary
- Fluency is a moving target



## Sight words

- Initially student may read a word by sounding it out
- Next few times, student may need to recode the word
- Then the student “unitizes” the word (recognizing a complex letter string as a word as quickly as identifying a single digit) (Ehri and Wilce, 1983)



# How are sight words acquired?

- Memory for the visual and spelling patterns of word or word parts (Torgeson et al 1997)
- These representations allow rapid identification of the word as a whole unit, or at least a unit composed of patterns rather than of individual letters
- Pronunciation is the anchor for the word
- Allows a match with the word in the oral vocabulary (Torgeson 2002)



# How many times must the word be seen?

- Six exposures sufficient to give good 1<sup>st</sup> grade readers an advantage in naming words compared to unfamiliar spellings with the same pronunciation
- Six exposures were not enough for older, poorer readers (Reitsma, 1983)
- Poor readers may be slow to identify targets they have practiced up to 18 times (Ehri and Wilce, 1983; Manis 1985)



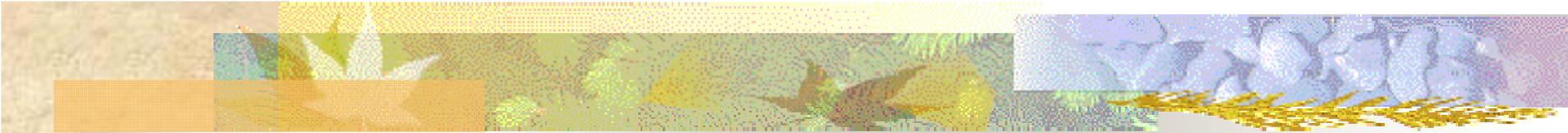
# How do you help students learn sight words?

- Drill, drill, drill!
- 20 minutes per session (Meyer and Felton 1999)
- Drill on error words probably more effective than drill on new words
- However, drill on new words “better development than no drill” (Hansen & Eaton, 1978)
- Correct any errors
- Drill practice transfers to reading in connected text (Tan & Nicholson, 1997; Levy 1997)
- Time limit needed when reading flash cards
- Drill can be done with lists, but timing is better controlled with flash cards



## Improving the speed and accuracy of connections – Word recognition

- Words may be related to content, or other (e.g. Fry list)
- After training, should be able to read words from a list with 95% accuracy
- Fleisher (1995) suggests goal of 90 WPM



## Improving the speed and accuracy of connections – Word recognition

### ■ Computer practice

- One word at a time on computer monitor

### ■ Page speed drills (see sample next slide)

- Read pages of alternate word sequences as fast as possible in one minute (Fischer, 1995)
- Beginning readers, this may be 3 or 4 words repeated randomly in rows on one page
  - 30 wpm
- Older readers 5 to 7 words
- Words phonetically similar (fat, cat, sat) or contrasting (hat, hate, rat, rate) or even words similar orthography (there, their, here, were)
  - 60 wpm middle grade three



Stories can be constructed to help the student practice certain sight words

- Their mother said, “When you are done with your work, would you like to play catch?” Dan and Sam said they would like to play catch, but they didn’t want to wait until their work was done. They asked their mother, “Would you let us play catch now instead of later?” Their mother would not let them play catch now and said they had to wait until they were done.



## Hiebert's Quick Reads (2003)

- Hiebert has written 60 expository passages with frequently occurring words for reading grade levels 2, 3, 4
- Each level has high-frequency words and phonic patterns and a read-along CD



## What do word retrieval, semantics & vocabulary have to do with fluency?

- A well-established vocabulary enhances the student's ability to retrieve specific words
- Speed of retrieval facilitates word recognition processes
  - (Wolf & Segal, 1999)
- Fast word recognition facilitates fluent reading



## What do word retrieval, semantics & vocabulary have to do with fluency?

- “Fast and accurate retrieval, whether for oral or written language, occurs best for words that are highly familiar and that possess rich associations for the reader....”  
(Wolf, 1997)
- Is a naming speed deficit a reflection of a broader word-finding problem? Results are equivocal



## Improving the speed and accuracy of connections - Semantics

- Dysfluent readers cannot afford time to process different meanings of a word they have read (Wolf, Miller & Donnelly, 2000)
- Students with rich vocabulary, easy access to multiple meanings, can retrieve information more quickly



## Can working on vocabulary and word retrieval have an impact on reading skills?

- Some aspects of word retrieval problems in dyslexic readers will respond to treatment, and these gains might generalize to other naming-speed tasks (Wolf & Segal, 1992)
- Working on word retrieval accuracy and vocabulary generalized to untrained naming-speed task (Wolf & Segal, 1999)
- Work on core words (especially with multiple meanings) may be beneficial since slow readers don't have time to process alternative meanings for words