Word Study and the SLP: Using the Five-Block Approach to Improving Literacy Skills (Part 1)

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Specific and focused attention to the encoding (spelling) and decoding (word-level reading) of words using one's knowledge of the linguistic properties of words (knowledge of language).

Five Blocks of Word Study

- Phonological Awareness (PA)
- Orthographic Pattern Awareness (OPA)
- Mental Graphemic Representations (MGRs)
- Semantic Awareness (SA)
- Morphological Awareness (MA)

Phonemic Awareness

- Phonemic awareness is the ability to think about, talk about, and manipulate (i.e., sound blending and segmentation) speech sounds; it is a strong predictor of spelling and word level reading.

Phonemic Awareness and Word-Level Literacy Skills

Difficulties in the area of phonemic awareness are marked by:

- Omission/additions of phonemes (sounds)
- Omission of letters tend to be for less salient sounds, especially in internal locations and in unstressed syllables: “sop” for “stop”, “relize” for “realize”
- Letter reversals, especially for liquids (l,r) and nasals (n,m, ng) in a word or syllable sequence, such as when spelling: “flod” for “fold”
Orthographic Knowledge

- **Orthographic knowledge** is the knowledge required to translate language from spoken to written form. It involves orthographic pattern knowledge (i.e., spelling patterns/conventions) and mental graphemic representations (i.e., pictures of written words in our heads).
- To be adequate at word-level literacy, we must be aware of these two aspects of orthographic knowledge.

Orthographic Pattern Awareness and Word Study

**Spelling and word-level reading require knowledge of sound-symbol correspondences (alphabetic principle).**

- /k/ = “k, c, ck, cc, ch, qu, x”
- “gh” = /g, f/

Difficulties in this ability are marked by:
- Letter-sound confusions/illegal substitutions: “cas” for “catch”

Orthographic Pattern Awareness

**Word study requires knowledge of rules for combining letters.**

Difficulties in this ability are marked by:
- Non-allowable letter sequences
  - “kry” for “cry”
  - “jrum” for “drum”
  - “kween” for “queen”

Orthographic Pattern Awareness

**Word study requires knowledge of the patterns that govern spelling within roots/base words**

Difficulties in this ability are marked by:
- Phonetically possible spellings that violate “rules”
  - “ran” for rain
  - “lader” for ladder

Orthographic Pattern Awareness

**Word study requires knowledge of positional constraints (orthotactics) on spelling patterns.**

- “rock” but not “ckow”

Difficulties in this ability are marked by:
- Violation of positional constraints
  - “tchop” for “chop”
  - “cacke” for “cake”

Morphological Awareness

- The awareness of the semantic aspects of a root or base word and its corresponding inflections and derivations, including:
  - awareness of morphological units (cats has 2 morphemes)
  - knowledge of morphologic forms (ly, ed, tion),
  - knowledge of modification rules (hope/hoping)
  - knowledge of the relationship between words and their derived forms (magic, magician)
Inflectional morphemes provide information about time or quantity without changing the meaning or class of the word. "walked, walking, walks" "cats"

Derivational morphemes, which can be prefixes or suffixes, change the meaning and/or the word class.

"teach, teacher" "fair, unfair"

Transparent Derivations: the semantic link between the base word and the derived word is clear, or transparent.

Derivational forms do not affect spelling of the base word "friend, friendly"

Derivational forms alter the base word orthographically OR phonologically.

"silly, silliness", "magic, magician"

Opaque Derivations: The semantic connection between the base and derived form is less clear because BOTH phonological and orthographic properties of the base word change.

“busy, "busily", “admit, admission”

Difficulties in awareness of morphological units are marked by:

- Omission of morphemes "walk" for "walked"
- Phonic spelling of morphemes "walkt" for "walked", "musishun" for "musician"

Difficulties in knowledge of modification rules marked by:

- Misspelling of modifications "calfes" for "calves", "crazyness" for "craziness"

Difficulties in knowledge of the semantic relationship between a root or base word and its inflected and derived forms are marked by:

- Failure to use knowledge of base word spelling to correctly spell inflected or derived form "busy" but "bizness" for “business”

Good system for experienced (and developing!) readers and spellers because morphological spelling retains relationship to base word, which would be lost if all spellings were completely phonetic:

- Kanaduh (Canada), Kunaydee (Canadian)
- sine (sign), signachur (signature)
**Morphological Awareness**

- Morphological awareness and its importance for literacy development increase in grades 3–6 (Mahoney, et al, 2000)
- However, evidence for morphological awareness occurs even earlier (Carlisle, 2004; Lyster, 2002; Treiman & Cassar, 1996)
- Correlations between MA and reading/spelling range from .46–.58; MA is sometimes THE unique predictor for some literacy skills (e.g., Apel et al., 2012)
- Affixed words outnumber root words 4 to 1.
- MA aids in word learning and sentence-processing

**Semantic Awareness**

Spelling requires knowledge of the effect of spelling on word meanings (or vice versa).

- Difficulties in this ability are marked by:
  - Words spelled correctly, yet conveying the incorrect meaning
  - Homophone confusions
    - “bear” vs. “bare”
    - “won” vs. “one”
    - “which” vs. “witch”

**Mental Graphemic Representations (MGRs)**

Spelling and word-level reading are aided and become more fluent when clear MGRs of words or morphemes are established. MGRs are part of orthographic knowledge

**MGRs and Word Study**

Difficulties in this knowledge area are marked by:

- Words read adequately but not spelled correctly
- Words read or spelled differently on repeated attempts
- Same word spelled creatively several times
- Phonetic spelling of non-phonetic words and word units
  - “cidy” for “city”, “vishous” for “vicious”

**Spelling and Reading Development**

- **Birth to 3–5**
  - Tied to environment: but recognize that print has meaning, and is re-readable, understand directionality, letter names, letter sounds
- **4–6**
  - Using all blocks to try and represent words, using letter name strategy*, decoding words, poor comprehension
- **6–8**
  - Using all blocks, increasing development of MGRs, beginning comprehension
- **8+**
  - Heavy use of MGRs for both, but still can rely on all blocks, particularly MA for vocab, comprehension and composition is focus

**Letter-Name Strategy**

- Choosing a letter to represent a sound because the sound is in the name of the letter
- Many, but not all (i.e., g, h, w, y) consonant letter names contain their sounds
- Kindergarten children use letter names 61% of time
- First graders use letter names 50% of the time
- Most common errors: r, l, schwars (e.g., doctor) and schwals (e.g., ladle) represented by “r” and “l”
- Most short vowels also follow letter name strategy: pet=PAT, mit=MET, hot=HIT, nut=NOT
Standardized tests allow one to document student’s performance on that task compared to many others. They do not provide you with ideas for instructional goals, procedures, prognosis via dynamic assessment. However, manipulation of findings may.

Criterion-referenced measures allow one to document range of student’s performance, provides ideas for instructional goals, procedures, prognosis via dynamic assessment.

Examples include: Woodcock Reading Mastery Test-Revised, Wide Range Achievement Test-3, Gray Oral Reading Test, etc.

Most word-level readings tests assess both decoding skills (e.g., Word Attack) and “sight word” skills (e.g., Word Identification). Spelling tests generally involve all-or-none scoring.

These measures tell you a student is within or not within typical limits, but do not provide reasons for student’s problems. Others may give these; SLPs should look at results to problem solve and find patterns.

Miscue Analysis
- Allows one to determine the type of errors a student has when reading and why those errors may occur
- Allows you to find out student’s view of reading
- Why do people read?
- Allows you to look at effect of text and student’s view of texts, on reading outcomes
- Student chooses easy and challenging texts
  - Why easy? Why challenging?

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Miscue Analysis
- Students reads while you code errors
  - Easy vs. challenging text (check for genre, language style, vocabulary, etc.)
  - Consider rate (including too fast)
  - Note word accuracy
    - 95–100% = easy text
    - 90–94% = instructional level text
    - 89% and below = difficult text
Types of Miscues

- Partial Word aka “Guess and Go”
- Insertions
- Deletions of sounds
- Reversals
- Semantic substitutions
- Self-corrections

His friend Lowly Worm was at the store, too. “What is the matter, Huckle?” asked Lowly. “I am not sure that I can remember what Mother needs,” said Huckle. “Do not worry. I will help you,” said Lowly.

“I think we have everything,” said Huckle. Just then Mr. Frumble bumped into the oranges. Oranges rolled everywhere. “Thank you, Mr. Frumble! I almost forgot the oranges,” said Huckle.

But Lowly had a better idea. “Get orange soda,” he said. “You need something to drink with potato chips.” “Thanks, Lowly,” said Huckle. “We do need a good drink.”

Word-Level Spelling Assessment

Spelling Assessment Choices

- Modified Developmental Approach: No specific assessment; instructor assumes “general” spelling level/abilities and moves into a global “Five Block Instruction” approach
- Prescriptive Approach: Specific analysis of students’ spelling abilities, including identification of the “Five Blocks”
Selecting appropriate instructional activities

Prescriptive assessment vs. other spelling assessments
- **Standardized tests** quantify spelling performance relative to peers: Test of Written Spelling (TWS-4); Wide Range Achievement Test (WRAT-3)
- **Spelling inventories** describe what letter patterns a student can and cannot spell: Words Their Way, 2000
- A **prescriptive assessment** uses error analysis to determine why a student misspells words and precisely what type of word study instruction is needed: Spelling Performance Evaluation for Language and Literacy 2 (SPELL-2), 2006

*Disclosure: Kenn Apel is a co-author and has a financial interest in SPELL-2*

Spelling Assessment

To be diagnostic and prescriptive, spelling assessment must include a systematic analysis of the nature of the spelling errors to determine the underlying causes (i.e., deficits in PA, OPA, MA, SA, MGR)

- **Single word assessment**
  - Requires student to write words you control
  - Does not have the linguistic/cognitive demands involved in connected writing
- **Text–level writing assessment**
  - Students must deal with the linguistic/cognitive demands involved in connected writing
  - Students can avoid words they can’t spell
  - Quantitative analysis typically tells you right or wrong, not why student is misspelling.

Spelling Assessment (Apel & Masterson, 2001)

Obtain adequate sample for each spelling pattern within student’s developmental spelling level
- consonants
- digraphs
- short & long vowels
- within-word doubling
- consonant clusters
- silent consonants
- silent ‘e’
- vowel + ‘y’, vowel + ‘l’
- unstressed syllables
- inflections
- derivations

Prescriptive Assessment

Identify spelling patterns most frequently misspelled.

For each identified and selected spelling error pattern, analyze nature of errors to determine whether underlying deficit is PA, OPA, MA, SA or MGR
Spelling Analysis

- If a sound/phoneme is not represented with any letter/grapheme = PA
- Within a root/base word, if the incorrect letter or letter sequence occurs or a spelling pattern is not observed (within-word doubling, long vowels) = OPA
- If a word is misspelled based on meaning = SA
- If an affix is missing, spelling incorrectly, or its addition to the base word is not appropriately modified = MA
- If a derived word form does not appear to utilize knowledge of the base word or another derived form in its spelling = MA
- If a word is spelled phonetically correct, and no orthographic pattern or morphological rule governs the spelling = MGR

Sample spelling list

- driv/drive
- bup/bump
- wen/when
- chan/train
- chais/chase
- flote/float
- beaches/beaches
- poping/popping
- pleser/pleasure
- emphuize/emphasize

Follow-up Tasks

- Phonemic Segmentation
  - Can use standardized or non-standardized measures.
  - Most helpful if geared toward student’s errors

- Morphological awareness
  - Likely will use non-standardized measures:
    - Observant: I need to ______ for my class.
    - Magic: David Copperfield is a good ______
  - Most helpful if geared toward student’s errors

Prescriptive Assessment

Conduct follow-up testing to confirm/refute hypotheses

- Phonemic segmentation
- Morphological awareness

Write goal(s) to target selected spelling patterns with appropriate instructional methods (Five Block Instructional Approach).
Summary

- By understanding the “five blocks” that serve as the foundation of word-level literacy, speech-language pathologists can help determine why students might struggle in their early literacy development and plan appropriate instructional and intervention goals.
- SLPs understand language; their wealth of knowledge can be a rich source of knowledge to others who also are helping struggling readers and writers.

References