Word Study and the SLP: Using the Five-Block Approach to Improving Literacy Skills (Part 2)

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Five Blocks of Word Study

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

The “Golden Rule” for Literacy Assessment and Instruction/Intervention

Knowledge of development, research and theory is our guide!

Spelling and Reading

- Spelling and (word-level) reading draw upon the same underlying knowledge, skills, processes (the Five Blocks):
  - Phonemic awareness (PA)
  - Orthographic pattern awareness (OPA)
  - Morphological awareness (MA)
  - Semantic awareness (SEM)
  - Mental graphemic representations (MGRs)

Spelling and Reading

- There is a reciprocal relationship between spelling and reading:
  - Students receiving spelling instruction emphasizing phonological, orthographic and morphological knowledge, and mental images of words show significant gains in spelling performance and word-level reading (decoding); (e.g., Keiman & Apel 2004).
  - Without attention, children may improve in reading and drop in spelling (Mehta et al., 2005)

Word Study Intervention: Key Points

- You may not be the only one assessing these skills (word–level reading and spelling); you may be the only one who “gets” language
- Word–level reading (decoding) is not the only skill required for text–level reading (comprehension); however, without it, a student is sunk!
  - Most curricula provide minimal attention to word–level reading; many curricula promote ineffective (or “misleading” strategies)
Most commonly practiced spelling instruction is the direct method of rote memorization of weekly target words (Friday Test):
- Applied through in-class activities (e.g., writing a word three times then putting it in a sentence), and/or rote memorization done at home
- May be organized around semantic themes, rather than orthographic properties
- Even when lists based on orthographic structure, little future, systematic attention paid to previous weeks’ "lessons"

Growing number of studies of instruction targeting multiple linguistic factors (Five Blocks) suggest increased benefit to spelling and reading development (e.g., Apel & Masterson, 2001; Apel, Masterson, & Hart, 2004; Kelman & Apel, 2004; Wolter, 2009)

All activities are introduced by instructor models before student attempts them (I do, we do, y’all do, you do)

Focus on the Five Blocks
- Direct, focused attention to the Five Blocks via naturalistic and “contrived” experiences
- Plenty of opportunities for text-level reading and writing
- Spelling instruction should be used for both reading and spelling development
- Facilitation of spelling skills should occur across the curriculum

Programs to help with spelling analysis will be both helpful and time efficient during the assessment process
- Spell checkers, speech synthesis, and speech recognition programs may be helpful in intervention (e.g., decrease attentional demands) though not necessarily better than paper and pencil
Use of Technology in Assessment and Intervention

- Spell checkers catch between 30–80% of misspellings
- Spell checkers identified 53% of the misspellings of students with LLD

*Montgomery et al., 2001

Use of Technology in Assessment and Intervention

- When using spell checkers, students with LD detected 63% of all errors and "fixed" 37%. This is better than the non–computer checking methods where comparable figures were 28% (detection) and 9% (correction).
- Over-reliance can be detrimental (e.g., spell checkers emphasize orthographic patterns, not meaning) and do not lead to strategic learning

*Graham and colleagues

Sample Tasks for the Five Blocks

- Encourage "continuous voicing" (phonemic decoding or blending)
  - Voice is maintained across word versus partial cues (guess and go) or phoneme by phoneme decoding
  - Practice initially on isolated words
  - Slide vs. stairs examples
  - Discourage use of "guess and go"
  - Ring a bell
  - Change speed, vowel, consonant, stress
  - Practice first through models
  - Move toward use in text
  - Never let go notion of the purpose of reading: comprehension. Student should have time to be read to, and to read on his/her own, both easy and challenging texts.

My Reading Slide

1. Keep your voice on
2. Say all your sounds
3. Don’t add extra sounds

- Use "Sound Strings"® to link PA to spelling
  - Adult and student(s) each have a sound string
  - After considerable modeling first (and possible "priming"), adult presents word
  - Student moves beads
  - Student places beads on top of paper
  - Student writes at least one letter per bead
  - Specialist discusses outcome, including "other knowledge" demonstrated by student (e.g., digraph awareness)
  - Keep in mind to:
    - Target specific segmentation errors
    - Control and gradually increase size of word or syllable
    - Consider word position
    - Consider phoneme properties

*SPELL-Links to Reading and Writing™
Orthographic Awareness for Word-Level Reading and Spelling

- Use Word Sorts
  - Target contrasting rules
  - Adult provides index cards with contrasting spelling rules/patterns
  - Student sorts into piles, with scaffolding as needed
  - Student is encouraged to verbalize the rule/pattern
  - Key word is established if appropriate
  - New rule/pattern is practiced in controlled writing tasks
  - Word searches occur in written text

Morphological Awareness for Word-Level Reading and Spelling

- Use Word Sorts to improve MA
- Use *Relatives and Friends* to improve MA
  - Adult discusses with student that family members can:
    - Look and sound alike
    - Look alike but not sound alike
    - Sound alike but not look alike
    - Not sound or look alike but still be related
  - Adult explains that for many “word relatives” the same situations occur
  - Adult and student brainstorm the relatives of a specific word and discuss how the “main relative” helps spell the others.
  - Adult can include foils and have student discuss why this strategy should not be apply

Providing Instruction/Intervention in Morphological Awareness

  - Word building: given cards with prefixes, suffixes or base words (roots), combine to make or recognize word (un+clear, salt+y)
  - Word generating: given affix, generate a word
  - Morpheme finding: find roots and affixes in texts
  - Word sorts (e.g., similar spelling, dissimilar purpose – corner, reader)

Word Building

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Base/root</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>re</td>
<td>cycle</td>
<td>-tion</td>
</tr>
<tr>
<td>im</td>
<td>friend</td>
<td>-ly</td>
</tr>
<tr>
<td>dis</td>
<td>teach</td>
<td>-er</td>
</tr>
<tr>
<td>in</td>
<td>make</td>
<td>-able</td>
</tr>
<tr>
<td></td>
<td>busy</td>
<td>-ness</td>
</tr>
<tr>
<td></td>
<td>hard</td>
<td>-ship</td>
</tr>
</tbody>
</table>

Morpheme Fixes

- Specialist and student choose common prefix or suffix and discuss meanings/spellings
  - Common prefixes*:
    - re-, in-, dis-, im-
  - Common suffixes*:
    - -tion, -y, -ly, -ant, -less, -er, -ment, -ful, -ness, -able, -ous, -ish, -ist,
    - -ive, -ic, -ary, -ern, -ship, -ent, -ing, -or, -al, -en, -ily, -ward
  - Student searches (reads) text and identifies use of target affix (prefix or suffix)
  - Student explains meaning and spelling of affix in context of text.
Improving MGRs for Word-Level Reading and Spelling

- Use "Picture This" strategy
  - Used for words for which other strategies/knowledge sources cannot be used
  - Adult models strategy of visualizing first using a picture and then an image familiar to student (e.g., bedroom)
  - Using target word, student and adult look at written word and talk about its characteristics
  - Students spells word forward and backward
  - Student takes "picture" of word
  - Student visualizes word, spells it forward, then backward.

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Student

- 11-year-old, 4th grade, English-speaking female with a history of literacy difficulties
- Born at 30 weeks gestation, weighing 2.8 lbs
- Received oxygen support first year of life
- Received physical and occupational therapy until 36 months of age
- Early speech and language skills within age expectations (adjusted age for premature infants)
- Raised in a literate environment

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Pre-Intervention Information

- Teachers described her as “average” even though:
  - Word-level reading abilities were borderline typical
  - They accommodated spelling difficulties:
    - Shortened number of spelling words for testing from 20 to 10 per week
    - Allowed extra days for studying
    - Student passed weekly tests (averaging 7 or 8/10) but did not retain correct spellings weeks later.
    - In fourth grade, accommodations did not lead to passing grades (longer multi-syllabic words) and effects of spelling on written composition seen (limited content due to replacement of multi-syllabic words with less complex words she could spell)

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Intervention

- 9.6 hours of direct intervention across 8 weeks
- Based on prescriptive assessment, intervention focused on orthographic knowledge and phonemic awareness skills
  - long/short vowels and “r-controlled” vowels
  - blending and segmentation
- Included homework assignments

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Results

- Spelling
  - Authentic writing
    - Pre: 193/26% Post: 36/16%
  - Spelling to dictation
    - Pre: 24/30% Post: 6/8%
  - Moderate effect size ($d = .5$) for pre-/post-spelling samples
Results

- Word-level Reading
  - Word Attack
    - Pre: 86(83–88)
    - Post: 99(96–102)
  - Word Identification
    - Pre: 88(87–90)
    - Post: 94(92–95)

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Classroom Study Application


Participants

- Class 1: Third/fourth grade split (6 third graders; 11 fourth graders); 9 boys and 8 girls; 7 students were Caucasian, 1 was African–American, and 9 were classified as “other.”
- Class 2: Third grade class; 7 boys and 12 girls; 16 students were Caucasian and 3 were classified as “other.” One student was on a current IEP for language, one for math, and one student was bilingual.

Procedures

- Class 1 received four spelling instruction "units" across a 9-week instructional period. The units targeted strategies to improve phonemic awareness skills (6 sessions), orthographic rules (6 sessions), and morphological awareness skills (5 sessions). Each session was 50 minutes long.
- Phoneme awareness activities focused on phonemic segmentation, tying knowledge of the sounds in a word to the graphemic representation of those sounds.
Procedures (cont.)

Class 1 (cont.)
- Orthographic awareness activities introduced specific spelling rules (e.g., long vowels, final liquid representations) via sorting tasks (e.g., Apel & Masterson, 2001; Masterson & Crede, 1999).
- Morphological awareness activities focused on highlighting relationships between “word relatives” (i.e., base words and their inflected and derived forms) that varied in their phonological and morphological overlap.

Class 2 received the traditional spelling curriculum of the school
All students were administered a list of 40 words, pre- and post-instruction.

Results
- At the onset of the study, both classes were equivalent in their spelling abilities.
- At the conclusion of the study, Class 1 significantly improved their word accuracy spelling skills; Class 2 remained the same (F=4.386, p<.05).
- For Class 1, effect size was $d = .65$. For class 2, effect size was $d = -.07$.

Discussion
- Results suggest that
  - a classroom-based “Five Blocks” spelling program shows great promise for facilitating spelling development in school-age children
  - growth in spelling (word–study) skills may be more linked to the type of instruction rather than the grade level or current skills of the students

Classroom Study

![Graph showing treatment effect size](http://example.com/graph.png)

(Apel, Masterson, & Hart 2004)

References


Apel, K., & Masterson, J.J. (in press). Comparing the spelling and reading abilities of students with cochlear implants and students with typical hearing. Journal of Deaf Studies and Deaf Education.
