Spelling Out Spelling Assessment & Intervention

Julie Masterson
Missouri State University

Kenn Apel
University of South Carolina

MSU Language-Literacy Lab

KOOL²
University of South Carolina
WHY SPELLING?
**Scope of Practice in Speech-Language Pathology**

- **Speech-Language Pathology Service Delivery Areas**
- This list of practice areas and the bulleted examples are not comprehensive. Current areas of practice, such as literacy, have continued to evolve, whereas other new areas of practice are emerging. Please refer to the [ASHA Practice Portal](https://www.asha.org) for a more extensive list of practice areas.

- **Language** - Spoken and written language (listening, processing, speaking, reading, writing, pragmatics)
  - Phonology
  - Morphology
  - Syntax
  - Semantics
  - Pragmatics (language use and social aspects of communication)
  - Prelinguistic communication (e.g., joint attention, intentionality, communicative signaling)
  - Paralinguistic communication (e.g., gestures, signs, body language)
  - Literacy (reading, writing, **spelling**)
Why Do We Care about Spelling?

- **Effects on reading**
  - Building knowledge of written words results in better reading (Moats, 2006/06)
  - Students’ reading performance (word reading and reading comprehension) moves from the 50th percentile to the 67th percentile with spelling instruction (Graham, Harris, & Hebert, 2011). Improved spelling leads to better reading fluency (Ouellette, Martin-Chang, & Rossi, 2017)

- **Educational Outcomes**:
  - Spelling errors in papers written by students with disabilities have a deleterious effect on writing scores, dropping scores from the 50th percentile to between the 42nd and 29th percentiles (Graham, Harris, & Hebert, 2011).

- **Society views**
  - 80% of employment applications are negatively affected by misspellings (Graham, Harris, & Hebert, 2011; National Commission on Writing for American’s Families, Schools, and Colleges, 2005)
Why Else Do We Care about Spelling?

• Society views
  ◦ 80% of employment applications are negatively affected by misspellings (National Commission on Writing for American’s Families, Schools, and Colleges, 2005)

• Effects on reading
  ◦ Building knowledge related to word study results in better reading (Moats, 2006/06)

• And……..
To spell well, one must rely on one’s

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

- Phonemic awareness: Segmenting/Blending Sounds within Words and Syllables
  - Critical early
  - Important throughout

- Stress awareness increasingly important

- Difficulties marked by
  - Failure to represent every sound (and later affix) by at least one letter
  - Failure to differentiate between sounds that are acoustically similar (e.g. “short i” vs “short e”)
  - Using letters that could represent added sounds or sounds out of sequence may indicate lack of phonemic “appreciation”
Orthographic Pattern Awareness: Base Words

- Important early and throughout as we encounter new words

- Sound-symbol correspondences
  Difficulties marked by letter-sound confusions & illegal substitution: “cas” for “catch”

- Spelling requires knowledge of the patterns that govern spelling within root/base words
  Difficulties marked by phonetically possible spellings that violate patterns: “ran” for rain; “lader” for ladder

- Spelling requires knowledge of positional constraints (orthotactics) on spelling patterns.
  Difficulties marked violation of orthotactic constraints: “tchop” for chop; “cacke” for cake
Morphological Awareness

- Appears in earliest stages of spelling development; however, critical from middle elementary and on
- The ability to be conscious of and manipulate the morphological units of a language.
- Involves the ability to identify base words and their inflected or derived forms.
- Ramifications are both grammatical and semantic.
- Inflections: Typically involve changes in number, tense, etc.
- Derivations: Typically involve a change in part of speech
Morphological Complexity

Transparent Derivations: the 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” (phonologically transparent)
  “magic, magician” (orthographically transparent)

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

“admit, admission”
MA Difficulties

- Misspelling of base word component (yet correct when alone)
  - “magic” yet “majician”
- Misspelling of base modification
  - “hoped” for “hopped”
- Omission of morphemes
  - “walk” for “walked”
- Phonetic spelling of morphemes
  - “walkt” for “walked”, “musishun” for “musician”
Mental Graphemic Representations

- The representation of images or templates for words, morphemes, and syllables in memory
- Also called Mental Orthographic Images
- Important early for frequently occurring and words that violate patterns
- Developed through adequate exposure to print and phonetic decoding.
- Inadequate MGRs may result from the use of a partial-cues reading strategy
- Problems indicated by
  - Legal misspellings
  - Poor proofreading
Semantics Awareness

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

- Even after each of the other linguistic awareness skills is developed (i.e., words phonologically-, orthographically-, and morphologically-correctly spelled), this particular linguistic awareness ability may be lacking.
SPELLING ASSESSMENT AND INTERVENTION
Spelling: A “Peek”

- Use a child’s spellings to pinpoint what is known and not known about literacy
- Use spellings to identify target orthographic structures for word study, which involves reading, spelling, and writing activities
- Use spellings to identify nature of “missing” knowledge related to orthographic structures
- Bottom line: MORE than just spelling work!!
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**
<table>
<thead>
<tr>
<th>Target</th>
<th>Spelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>juice</td>
<td>gus</td>
</tr>
<tr>
<td>jet</td>
<td>jet</td>
</tr>
<tr>
<td>bake</td>
<td>bak</td>
</tr>
<tr>
<td>jeep</td>
<td>gep</td>
</tr>
<tr>
<td>beet</td>
<td>bet</td>
</tr>
<tr>
<td>joke</td>
<td>jok</td>
</tr>
<tr>
<td>five</td>
<td>fiv</td>
</tr>
<tr>
<td>jump</td>
<td>gup</td>
</tr>
<tr>
<td>run</td>
<td>run</td>
</tr>
<tr>
<td>seat</td>
<td>set</td>
</tr>
<tr>
<td>lint</td>
<td>lit</td>
</tr>
<tr>
<td>zoo</td>
<td>zu</td>
</tr>
<tr>
<td>bend</td>
<td>bed</td>
</tr>
</tbody>
</table>
Treatment Targets/Strategies

- Spell /dʒ/ as “j”
  - Developing complete MGR
- Spell long vowel patterns
  - Developing adequate OPA of the long vowel principle
- Spell nasal blends
  - Develop adequate PA for nasal element of nasal blends
Prescriptive Assessment

• Uses error analysis to determine why a student misspells words and what type of word study instruction is needed
• Provides a clear roadmap for tailored word study

Disclosure: The presenter is a co-author of SPELL-2 and consequently has a financial interest in the product. The analyses described in this presentation can be done by hand or with the computer-based tool.
Word Study

• Word study is the 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 (meta skills)

• With increased knowledge of language through word study, reading (decoding and comprehension) and writing (spelling and composition) improve
Word Study/Meta Skill Instruction

- Children develop their meta skills as a repertoire of strategies
- Meta skills begin emerging concurrently as early as kindergarten
- Developmental data suggest instruction should focus on improving meta skills for reading and writing across all five areas in tandem vs. sequentially
- Teachers can use the crop-duster approach
Word Study/Meta Skill Intervention

- Children struggling with word-level literacy often struggle with one or more of the meta skills needed to be successful with word-level literacy
- Specific, prescriptive assessments enable SLPs to identify needs in each of the five meta skill areas (PA, OPA, MA, SA, and MGR)
  - Spelling analysis
  - Miscue analysis
- SLPs can use the prescriptive approach to remediate deficits
Basic Points re: Word Study
Instruction/Intervention

- All activities are introduced by instructor models before student attempts them (I do, we do, y’all do, you do)
- Focus is on the five meta skills
- Educator provides
  - explicit, focused attention to the five metal skills via naturalistic and “contrived” experiences
  - plenty of opportunities for text-level reading and writing
- Word study does not need to be solely a “subject:” word study can occur across the curriculum
Phonemic Awareness for Spelling

- 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 Pattern Awareness for Word-Level Reading and Spelling

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

- 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

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

- Other tasks may include:
  - **Word building**: given cards with prefixes, suffixes, or base words (roots), student and adult combine to make or recognize words (un+clear, salt+y)
  - **Word generating**: given affix, student and adult generate words
  - **Morpheme finding**: given a root or affix, student and adult search text for more or related examples
  - **Word sorts**
MGRs for Word-Level Reading and Spelling

- Conducted when other meta skill strategies do not result in correct spelling

- “Picture This”* strategy
  - Adult models strategy of visualizing an entity first using a picture and then an unseen image familiar to student (e.g., T.V. room)
  - Using a target written word, student and adult look at the word and talk about its characteristics
    - Color code consonants and vowels
    - Raise/lower voice for letter that go above midline or below baseline
  - Student spells word forward and backward
  - Student takes “picture” of word
  - Student visualizes word, spells it forward, then backward.
Back to Sample: Goals and Strategies

- Developing complete MGR for “J”
  - Appropriate Word Lists Contrasting
  - Activities to make “J” salient

- Developing adequate OPA of the long vowel principle
  - Appropriate Word Lists Contrasting
  - Sorting Activities
  - Journal Entry, with Key Word(s)

- Develop adequate PA for nasal element of nasal blends
  - Appropriate Word Lists
  - Sound Strings, Other Segmentation? Activities?
Linking Your Work to Others’

- SLPs’ roles are implemented in collaboration with others who may have expertise in the development of written language; roles vary with settings and experience of those involved
  - preventing written language problems by fostering language acquisition and emergent literacy skills
  - identifying children at risk for reading and writing problems
  - assessing reading and writing
  - providing intervention and documenting outcomes for reading and writing
  - providing assistance to general education teachers, parents, and students
  - advocating for effective literacy practices
  - advancing the knowledge base
Linking Your Work to Others’

- Some aspects of a multilingualistic approach are already there (in some form)
  - Phonemic awareness
  - Orthographic pattern awareness (aka phonics)
  - Morphological awareness (aka vocabulary!)
  - MGRs (argh!)

- The trick is to:
  - Help educate educators on sounds, patterns, and meanings (phonemes, orthographic patterns, morphemes)
  - Help them see benefits
  - Help them believe they are not violating “the way it should be done”
Linking Your Work to Others’

- Common Core State Standards (or versions for some states)
  - They caused people to talk about/address writing - across the curriculum, across the genres, and in response to text.
  - They were designed for mainstream students; they require modifications for students who struggle with reading, writing, and/or other language-based skills.

- C.C.S.S. (or highly similar other state standards) are consistent with a multi-linguistic approach to reading and spelling
  - “Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context” (CCSS.ELA-Literacy.RF.5.3.a).
Many educators are:
- Unaware of terms/concepts associated with linguistic awareness skills
- Have incorrect understanding of those terms/concepts
- Unclear on the benefits of those terms/concepts

How do we educate them?
- In-service
- Through literature and creative means
- By example
- Help them see spelling is not the Friday test