Meaning and Reading: Using Morphological Awareness To Support Struggling Students
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Morphological Awareness: The Root of the Matter

• “The study of word structure” (Carlisle, 2004)

  – Involves the metalinguistic ability to manipulate and combine morphemes

Agenda

From IDA  Sneak Peek ASHA Perspectives on Morphological Awareness
Morphology Defined

- Morphology = smallest units linguistic meaning

- Base/root word (e.g., swim)
- Prefix (e.g., un-)
- Suffix (e.g., -ing)
- Affixes

Development and Meaning of Roots or Affixes

- **Inflectional Morphology**
  - Develops early in spoken language – starting at age 2 and mastered by kindergarten

- **Derivational Morphology**
  - Develops later and advances as schoolchildren encounter and begin to understand and master this skill

- Tense (-ed)
- Plurality (-s)
- Possession (-’s)

- Affixes that change word type
  - Teach (verb) - teacher (noun)

Morphological Awareness: Roots to Language and Literacy

- Vocabulary
- Phonological Awareness
- Reading
- Writing

References:
- Bowers, Kirby, & Deacon, 2010; Carlisle, 1996; 2000; 2004; 2010; Ellis & Arntz, 1999; Estes & Liberman, 1990; Gooden & Ahe, 2000; Reed, 2000; Deneen, Deneen, & Fagerness, 2002; Dozier, Kirby, & Casalban-Bell, 2000; Fowler & Liberman, 1995; Goodwin & Ahn, 2010; Reed, 2000; Deneen, Deneen, & Fagerness, 2002; Dozier, Kirby, & Casalban-Bell, 2000;
Morphological Awareness and Vocabulary

Morphologically complex words make up more than half of the words in English. (Anglin, 1993; Nagy & Anderson, 1984)

Morphological awareness facilitates:
- Vocabulary
- Reading Comprehension
(Bowers & Kirby, 2010; Carlisle, 2010; Guo et al., 2011)

Morphology and Vocabulary: The Root

- Children increase vocabulary by using the meanings of familiar base words and suffixes to infer the meanings of unfamiliar derivatives.

- piglet -let
  little pig little owl

- owlet -let
  little owl

Morphology and Reading:

- Decoding
  - Reading Comprehension
  - Quick recognition
  - Efficient Decoding
  - nation, nutrition, conversation

  -on
  *shun*
  +nut +traveler

  -ton
  *zion*
  +naut

  -ion
  *conversa*tion

  *astronaut*
  *ocean*
  *nutrition*
  *conversation*

  The astronaut was interested in learning more about fish habitats.
Morphological Awareness and Decoding

-ive
contrive
detective
sh
misheard
fishing

(Nunes et al., 2003)

Morphological Awareness and Reading: Research

Researchers have found strong correlations between morphological awareness and success in reading, writing, and spelling (Apel & Lawrence, 2011; Carlisle, 2000; Bender & Beneci, 2007; Green, 2009; Jarmulowicz, Hay, Taran, & Ethington, 2008; Kirby, Deonarines, Rotch & Lui, 2008; McCutchen, Green, & Abbott, 2008; Nagy et al., 2006; Schwertberg, Green, & McCutchen, 2002; Wolter, Wood, & D’zarko, 2009).

Children with poor reading comprehension have specific difficulties with morphological awareness in the presence of good phonological awareness skills (Tong, Deacon, Kirby, Cain, & Pailli, 2011).

Morphological Awareness Instruction: The Research

- Two recent meta-analyses revealed morphological awareness instruction to be beneficial for school-age children in the areas of vocabulary, reading, and spelling.
  (Bowers et al., 2010; Goodwin & Ahn, 2010)
Morphological Awareness Intervention: Children with Disabilities

- Goodwin & Ahn (2010) conducted a meta-analysis of 17 studies and found that morphological awareness instruction was effective for students with reading, learning, or speech and language disabilities.
- Bowers et al. (2010) studied 22 research studies and found that morphological awareness instruction resulted in increased benefits for students with literacy deficits. Additionally, this instruction was more effective when combined with other literacy instruction.

Morphological Development

Students with Typical Abilities

- In 2nd Grade: Meanings of new words may be inferred based on word structure.
- Between 3rd and 5th Grade: There is a massive increase in children’s morphological knowledge.
- In 4th Grade: Knowledge of the syntactic function of derivational suffixes begins.

Students with Learning Disabilities Tend to:

- Show poorer command of past tense inflections (Moran & Bryne, 1977).
- Tend to make morphemic errors in writing (Rubin et al., 1991).
- Continue to use less mature forms (Windsor, 2000; Curles, Kutz, & Tallal, 1992).
How do we make meaning MEANINGFUL......Based on EBP

Instruction in changing meaning and how morphology can help

Incorporation of all three literacy codes (phonological, orthographic, and morphological)

Repeated practice with newly learned information

Application of newly learned skills in functional reading and writing contexts

Treatment goals can be linked to national academic standards and benchmarks.

The links are found in the areas of reading, writing, vocabulary and language.

(see Gobig & Zaretsky, 2013, for connecting Common Core standards to morphological awareness)
Common Core Example: Language

- **Vocabulary Acquisition and Use**
  - L.6.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.
  - Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., audience, auditory, audible).

Introducing Morphology and Identifying Patterns

- **Begin with introduction morphology and many relevant examples.**
- **Emphasize importance of morphology**
  - Increase vocabulary
  - Become better reader/speller
- **Terminology may be taught directly** (e.g., derivative, suffix), or teach and use simpler terms (e.g., base word, word ending).

Characteristics of Morphological Relations

<table>
<thead>
<tr>
<th>TYPE OF MORPHEME</th>
<th>TRANSPARENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inflectional</strong></td>
<td><strong>Transparent</strong></td>
</tr>
<tr>
<td>- Tense (walks, walked, walking)</td>
<td></td>
</tr>
<tr>
<td>- Possession (girl’s)</td>
<td></td>
</tr>
<tr>
<td>- Plurality (girls)</td>
<td></td>
</tr>
<tr>
<td><strong>Derivational</strong></td>
<td><strong>Opaque</strong></td>
</tr>
<tr>
<td>- Change in word class</td>
<td></td>
</tr>
<tr>
<td>- teach – teacher</td>
<td></td>
</tr>
<tr>
<td>- explode – explosion</td>
<td></td>
</tr>
</tbody>
</table>

See Gibson & Wolter, 2015; Wolter & Green, 2013; Wolter, 2014; for further examples.
Concept Explanation: Inflection

We will learn about words and word parts to help you learn more words and become a better reader and speller.

Words can be broken up into parts called morphemes.

"Morphing" words means changing them to change meaning.

Some suffixes change a word's meaning. We use these words to help us make more than one word with other same parts.

These endings are spelled the same each time you see them, even though they sound different (e.g., -ed, -ed, -ed).

Inflectional Word Sort

Sorting activities are an ideal way to emphasize the differences in meaning, spelling, and sound

<table>
<thead>
<tr>
<th>Spelling</th>
<th>-ed</th>
<th>-ed</th>
<th>-ed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spelling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>-ed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>helped</td>
<td>plodded</td>
<td>grinned</td>
<td></td>
</tr>
<tr>
<td>versus</td>
<td>tricked</td>
<td>needed</td>
<td>canned</td>
</tr>
<tr>
<td>Sounds</td>
<td>sipped</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/r/, /rd/, /d/</td>
<td>raked</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Further Resources: Johnston, Bear, Invernizzi, & Templeton (2004)

Fun with Integration

**ed /e/d**

The field was wet and the kids did not get to play baseball because it _______.

- rained
- hopped
- painted

**ed /th/ed**

A bunny did this to get to the other side of the road... he _______

- hopped

**ed /th/ed**

The artist did this to the wall in the colors of purple and blue

- painted
Emphasizing Derivational Morphological Awareness

Transforms, semantic roles played by words, within sentences.
• Teach verbs to teacher (speech)

Facilitates sentence comprehension via reasoning by analogy.
• Example: (Learn center and location)

Identification of derivational relations through word sorts.

Generation of words through word building.

See Gibson & Wolter, 2015; Wolter & Green, 2013; Wolter, 2014; for further examples.

Concept Explanation: Derivation

Words can be broken up into parts called morphemes. Morphing words means changing them to change meaning.

When writing or reading, meaning can be created or inferred from words by breaking down the parts.

MISSION: Morphing Words

Given a base word, "morph" the word into as many word forms as possible, using previously taught prefixes and suffixes. Label each word according to its part of speech.

<table>
<thead>
<tr>
<th>Word</th>
<th>Noun:</th>
<th>Verb:</th>
<th>Adjective:</th>
<th>Adverb:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat</td>
<td>Heater</td>
<td>Preheat</td>
<td>Heated</td>
<td>Heatedly</td>
</tr>
<tr>
<td>Apply</td>
<td>Application</td>
<td>Apply</td>
<td>Applicable</td>
<td>Inapplicable</td>
</tr>
</tbody>
</table>

Green & Wolter (2011)
**Relationship Activity: All in the Family**

(Cunningham, 1998; adapted by Wolter & Dilworth, 2014; Wozniakz, April, Malpass, & Malpass, 2012)

<table>
<thead>
<tr>
<th>Family Members Can:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Look or sound alike and be related</td>
<td>slip ~ slipped</td>
</tr>
<tr>
<td>Look or sound different and be related</td>
<td>divide ~ division</td>
</tr>
<tr>
<td>Look or sound alike but NOT be related</td>
<td>magic ~ magician</td>
</tr>
</tbody>
</table>

Are teacher and teach related?  
Are mother and moth related?  
Are clinician and clinic related?  
Are brother and broth related?

**Derivational Word-Building Activity**

Create your own words and define:

- **ant**- (against) - **ped**- (to walk) - **-ology** (study of)
- **micro**- (small) - **-act**- (to do) - **-ion** (state of being)
- **un**- (not) - **-dict**- (to say) - **-ness** (state of being)
- **re**- (repeat) - **-mot**- (to move) - **-or** (doer)

(See Wolter, 2015; Wolter & Green, 2013)

**Linking Morphological Awareness to an Academic Context**

- Students can be taught to
  - Identify morphologically complex words in class literature, spelling assignments, and content area textbooks
  - Use their morphological knowledge to discern meaning
    - Context (e.g., clues in the text that help us figure out meaning) and morphological reasoning by analogy can be used to sort out the meaning of an unknown word
- Context and the affix of less might be used to infer the meaning, decoding, and spelling of the novel vocabulary word toothless

From IDA Sneak Peek ASHA Perspectives on Morphological Awareness
MORPHOLOGY AND MOTIVATION

Reading Integration

- Look for CLUES IN TEXT
- Focus on morphological meaning
- Paraphrase morphologically complex words

Application Example: Reading Comprehension

Look at the passage below and underline the words with the -or, -able, and -ation suffixes. Then, answer the questions.

Sarah had a wild imagination. She liked to daydream. Sometimes she was a brave warrior. Other times she was a sailor on a boat in the ocean. There was always the temptation to daydream at school. Her teacher said this was not acceptable. He wanted Sarah to pay attention in class. Sarah did want to learn. She was willing to try to listen carefully to class information. Her teacher helped her use her imagination in different ways. He let Sarah be the illustrator of class stories. He let her be a lead actor in the school play. Sarah had to do a lot of preparation for these jobs. But she thought it was fun. And, she had the admiration of her friends. So, she enjoyed daydreaming at home and trying new things at school.

(See Wolter, 2015; Wolter & Green, 2013; Wolter & Gibson, in press, for further examples)
Comprehension Questions
1. What did Sarah daydream about?
2. Why was it not acceptable to daydream at school?
3. How did Sarah use her imagination in different ways?
4. Why did she have to do a lot of preparation?

(See Wolter, 2015; Wolter & Green, 2013; Wolter & Gibson, 2015, for further examples)

Review of Key Points: THE ROOT OF THE MATTER

- Morphological awareness is educationally relevant

- Students of all abilities benefit from:
  - explicit activities
  - active reflection on morphological word parts and patterns

Focus on:
- Recognition of meaning and patterns in word sorts
- Production activities such as word building

- Provide a functional links to language and literacy

Thank you

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Intervention Resources

- Ready, Set, Grammar; Scissors, Glue and Grammar Too; No Glamour Grammar; 100% Reading: Decoding and Word Recognition Linguists, 1-800-PRO-IDEA
- SPELL: Links to Reading and Writing, Evanston, IL: Learning by Design, Inc.
- Words: Integrated Decoding and Spelling Instruction, Pro Ed, 1-800-897-3202
- Words Their Way: Word Study for Spelling, Vocabulary, and Spelling Instruction, Pearson Education, 5-800-223-1360
- Language! Longmont, CO: Sopris West (Supplement: Roots!)
- Month by Month Phonics for the Upper Grades, by Patricia Cunningham (available in teachers’ supply stores)
- Vocabulary from Classical Roots, Educators Publishing Services

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