Beyond Vocabulary: Evidence-Based Interventions for a Variety of Semantic Deficits

Disclosure

• We have no relevant financial or nonfinancial relationships to disclose.

The Full Experience of Semantics

• Semantics has an image problem
  – Semantics = Vocabulary

• Semantics > Vocabulary
  – vocabulary is one aspect of semantics

The Full Experience of Semantics

• Problems with a Semantic = Vocabulary focus
  – Vocabulary items need to be
    • Complete
    • Interconnected
  – Semantics deals with both of these issues and more

The Full Experience of Semantics: Completeness

• What is a word (or vocabulary item)?
  – a unit of language, consisting of one or more spoken sounds or their written representation, that functions as a principal carrier of meaning.
  (www.dictionary.com)
  – a phonological form paired with a meaning
    / dʌk /
    duck

The Full Experience of Semantics: Completeness

– The form and meaning(s) should be shared across people
  • kooba

– The meanings should be complete, but don’t have to be
  • pervert
The Full Experience of Semantics: Completeness

- What are the parts of a dictionary’s definition?
  
  *duck* [duck] (noun, plural ducks, especially collectively for 1, 2) duck.
  1. any of numerous wild or domesticated web-footed swimming birds of the family Anatidae, especially of the genus *Anas* and allied genera, characterized by a small, flat bill, short legs, and depressed body.
  2. the female of this bird, as distinguished from the male. Compare *duck*.
  3. the form of this bird, eaten as food.
  4. informal, person, individual: *It’s the queer little duck with the black-lengthy plumes and shinier mustache.*
  5. a playing martin, especially one that is not used as a sheeter.

- Vocabulary entries should include all of these parts.

The Full Experience of Semantics: Interconnectedness

- A dictionary’s definition is a good metaphor for vocabulary completeness

- But, a dictionary is not a good metaphor for the lexicon
  - each individual’s “mental library” of word knowledge

The Full Experience of Semantics: Interconnectedness

- Rich lexicons are like three dimensional webs.

- Multiple types of connections

- Definitions vs. Metaphors

Improving Semantics: Case Examples

- Children can have variety of troubles with semantics
  - small receptive and/or expressive vocabularies
  - incomplete entries
  - fewer and/or less active connections between items
  - poor word finding

Improving Semantics: Case Examples

- Boo, 3 years, 7 months
  - first expressive words ~ 20 months
  - expressive vocabulary < 10th percentile
  - sorts and labels common objects into categories
  - vocabulary during language sample focused on
    - objects in the environment
    - attribute words
    - prototypical action words for those objects

Improving Semantics: Case Examples

- Max, 9 years, 8 months
  - receptive and expressive vocabulary scores at 18th and 14th percentile
  - accurate but slow word naming
  - definitions imprecise
  - averages 65% accuracy with classroom vocabulary
  - categorizes by common groups and functions
    - low accuracy for classroom vocabulary
Improving Semantics: Intervention for Low Vocabularies

I. Direct Vocabulary instruction
   - Targeting specific words is helpful
     - for both the short and long terms
     - increased learning over exposure only
       - Coyne, McCoach, and Kapp (2007)
       - Goldstein, Kelly, Haring, & Oznowski (2014)
     - but, exposures were not matched for frequency

II. Increasing opportunities for and responsiveness to target words
   - Interactive Modeling
     - embed lexical models in everyday contexts
     - facilitate their use through
       - focused stimulation
       - milieu therapy

a) Parent Training Models
   - training parents/caregivers as agents of change
   - The Hanen Program
     - parents are taught techniques that promote language learning through daily interactions
       - Observe, Wait, Listen
       - Say less, Stress, Go Slow, Show
     - adults model target vocabulary, but do not require a response

b) Clinician-based models
   - Positive effects with SLP focused stimulation
     - Kouri (2005)
       - Milieu more effective than targeted exposure within the clinic setting
       - similar performance in home setting
Improving Semantics: Intervention for Low Vocabularies

III. Learning strategies
- Positive effects for semantic and phonological features of new words
  - Motsch and Ulrich (2012)
  - Pirate's quest for unknown words
    - syllabic segmentation
    - semantic categorization

Improving Semantics: Intervention for Word Finding

• What we did...
  - Hanen model + clinician focused stimulation
  - Sessions targeted new words and techniques
    - parent use previous technique
    - introduce new technique
    - clinician use of technique
    - parent trial of technique
  - Later sessions highlighted semantic & phonological features

Improving Semantics: Intervention for Word Finding

<table>
<thead>
<tr>
<th>Storage of words</th>
<th>Retrieval of words</th>
<th>WFD</th>
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Improving Semantics: Intervention for Word Finding

• Hodgepodge of intervention models
  - Single Linguistic Component
    - semantic
    - Phonology
  - Both Linguistic Components
    - semantic & phonological
Improving Semantics: Intervention for Word Finding

I. Semantic Only
   – Narrative-based intervention, targeting words through
     • definitional sentences
     • contextual sentences
     • exposure, imitation, and retelling
   – Significant increases in target words
   – Non-significant for control words
     • Marks and Siokas (2009)

II. Phonology Only
   – Identified and practiced phonological cues of
     • syllable counting
     • phonological neighbors
     • verbal rehearsing
   – Significant increases in target words
   – Non-significant for control words
     • German (2002)

III. Semantic & Phonology
   – Semantic features
     • definition contrasts description
categorization function association
     similarity content
   – Phonological features
     • rhyming phoneme count
     syllable count imagery

– Findings
  • Semantic group > phonological group on untrained words
  • Phonological group > semantic group on trained and untrained words
    – Wing (1990)
  • Words trained under Both conditions were learned the best

• Children responded better to condition that matched their initial strengths
  – Bragard, Schelstraete, Synens, & James (2012)
Improving Semantics: Max

- What we did...
  - Teach semantic and phonological features for common words
    - sorting and grouping activities
    - identifying
  - Identify the features in low frequency words
  - Identify the features in target vocabulary words
    - within contexts

Unlocking Future Rewards

- What might the future hold??
  - Selecting groups of words based on semantic and phonological neighbors
    - Targeting “unusual words” to improve learning
      - like maximal opposition therapy
    - Addressing/including syntactic information

References

(INCLUDING MORE THAN WHAT WAS IN THE PRESENTATION)

Semantic Model

Semantic Development


Contact Information

200 College of Health & Human Services
Bowling Green State University
Bowling Green, OH 43403

trbracke@bgsu.edu
ewitter@bgsu.edu
419.352.2515

References

Assessing Semantics

Research Evidence: Low Vocabularies


References


References

Research Evidence: Word Finding


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