

## Where's the Semantic Sense in Preschool Language Testing?

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## Overview

- Review of semantic difficulties of children with LI
- Model of semantic organization
- 5 Aspects of semantic sense
  - ▮ Theories of language development
  - ▮ Evaluate how they are measured by standardized tests.
  - ▮ Alternative ways to examine semantic sense.

## Semantic Comparisons Between Preschoolers with LI & Their Peers

- Vocabulary
  - ▮ Preschoolers with LI identify and produce fewer words.
  - ▮ They are slower in acquiring their first 50 expressive words.
  - ▮ They rely on a narrow set of vocabulary items.

## Semantic Comparisons Between Preschoolers with LI & Their Peers

- Word Learning
  - ▮ Children with LI learn new words more slowly in supported and unsupported contexts.
  - ▮ They have more difficulty retaining recently learned words.
  - ▮ They also have more difficulty producing newly learned words accurately.

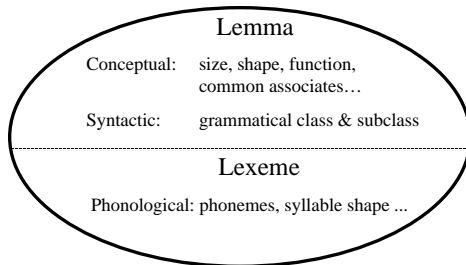
## Semantic Comparisons Between Preschoolers with LI & Their Peers

- Word Recall
  - ▮ Children with LI take more time to repeat and generate word lists.
  - ▮ They are poorer at using cues to facilitate word recall.

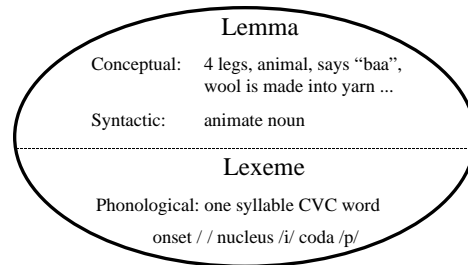
## Semantic Comparisons Between Preschoolers with LI & Their Peers

- Word Production
  - ▮ Children with LI make more substitution errors.
  - ▮ Their errors are primarily semantic in nature.
    - ▮ across level substitutions "animal" for 'tiger'
    - ▮ within level substitutions "lion" for 'tiger'
    - ▮ circumlocutions "a thing you spend" for 'money'
    - ▮ grammatical alternations "cutter" for 'knife'

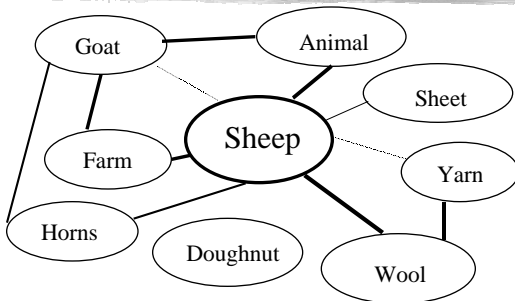
### Spreading Activation Model of Lexical Storage



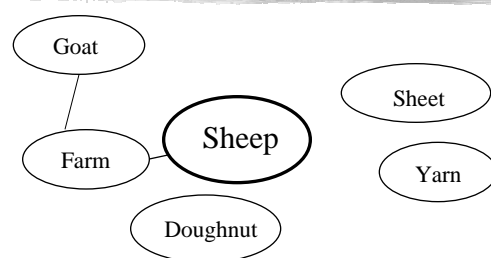
### Spreading Activation Model of Lexical Storage: "SHEEP"



### Spreading Activation Model of Lexical Storage



### Spreading Activation Model of Lexical Storage LI



Kail and Leonard (1986) - the semantic memories of children with LI "contain generally weaker links between entries as well as fewer connecting links."

### Aspects of Semantic Sense

■ **Semantic Sense** = all that is known about the meaning of lexical items.

1 **Hyponymy**

- word relations based on specificity

2 **Theme**

- the situational aspects of word relations

### Aspects of Semantic Sense

1 **Hyponymy**

2 **Theme**

3 **Prototype Variability**

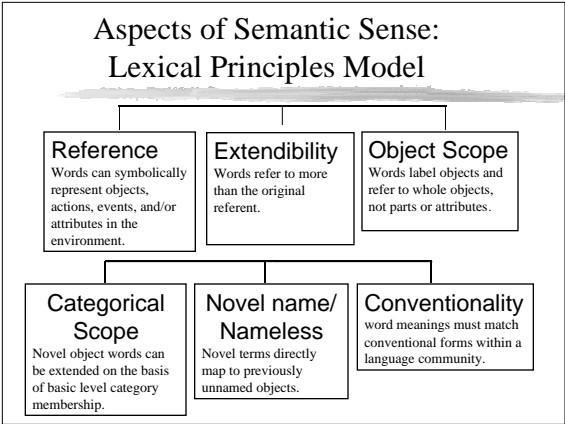
- the range of representations included within a given lexical item

4 **Part-Whole**

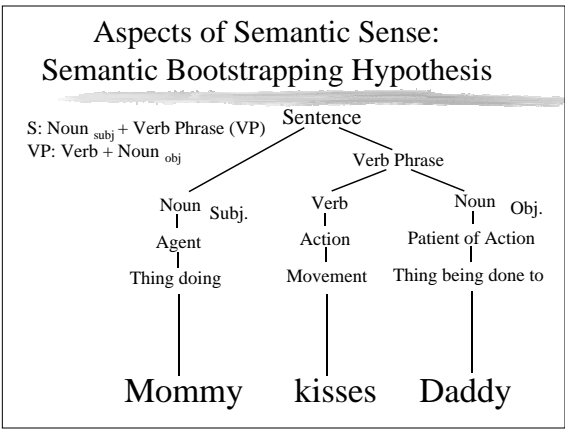
- the labels for parts or attributes

5 **Syntactic Category**

- word use within phrases and sentences

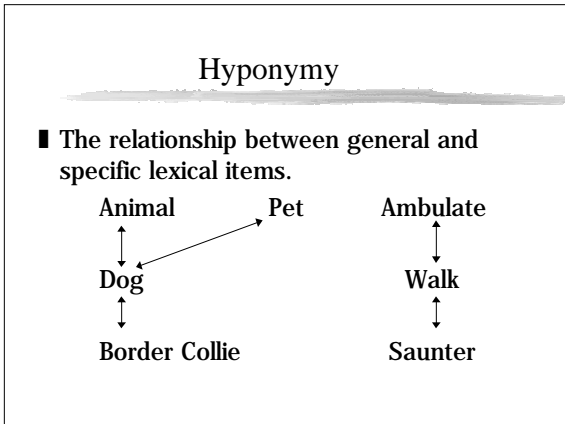


- ### Aspects of Semantic Sense: Lexical Principles Model
- **Hyponymy & Theme**
    - extend categorical scope to include subordinate, superordinate, and situational relations
  - **Prototype Variability**
    - evaluates the range of references that the child will allow
  - **Part-Whole**
    - examines the labels for parts and attributes



- ### Preschool Language Tests
- **General Language Measures**
    - MacArthur Communicative Development Inventory: Words & Sentences (CDI)
    - Clinical Evaluation of Language - Preschool (CELF-P)
    - Preschool Language Scales - 3 (PLS-3)

- ### Preschool Language Tests
- **Receptive Vocabulary**
    - Receptive One Word Picture Vocabulary Test (ROWPVT)
    - Peabody Picture Vocabulary Test (PPVT-III)
  - **Expressive Vocabulary**
    - Expressive One Word Picture Vocabulary Test - Revised (EOWPVT-R)
    - Expressive Vocabulary Test (EVT)



## Hyponymy

- PLS-3
  - Receptively
    - | identify objects by superordinate category
  - Expressively
    - | name items within a category
    - | produce superordinate category labels
- CDI
  - items are grouped into categories
  - unclear what the child knows about these categories

## Theme

- Word associations based on the situations they appear in.
- Includes:
  - semantic relations
    - | hammer                  nail                  hit
    - bubble——tighten-

## Theme

- Includes:
    - semantic relations
    - syntactic relations
      - | thematic roles
        - agent      experiencer                  goal
- "Mary kissed the baby"  
"Mary kissed the rock"  
\* "Mary kissed the idea"

## Theme

- PLS -3
  - Receptively
    - | identify objects by their function/action
  - Expressively
    - | thematic answers allowed for defining items and completing analogies

## Prototype Variability

- The range of items, actions, and attributes allowed as examples of lexical entries.
- Bananas
  - Yellow      Green      Brown      Splotchy
  - Long                  Short
- Birds
  - Robin ←————→ Emu
- A culturally driven aspect of semantics

## Part - Whole

- The understanding that some words refer to parts of objects or actions
- E.g.,      your knee is part of your leg  
                 a handle is part of a cup

## Part - Whole

- PLS-3
  - ▮ Receptively
    - ▮ Find part of an object
    - ▮ identify body parts
    - ▮ compare by descriptor + part
- ROWPVT, PPVT-III, EOWPVT-R, EVT
  - ▮ All present items that are part labels
  - ▮ Items are presented with limited view of the whole and are spurtratically distributed

## Syntactic Category

- What is known about how a lexical item is used correctly within phrases and sentences.
- Includes:
  - ▮ Grammatical class
    - ▮ noun      verb      adverb
  - ▮ Specific class type
    - ▮ nouns: count    mass    animate    inanimate
    - ▮ verbs: transitive    intransitive    ditransitive

## Syntactic Category

- CDI
  - ▮ Organization provides picture of grammatical categories
  - ▮ Word Forms section addresses irregular plural nouns and irregular past tense verbs
- CELF-P
  - ▮ Formulating Labels Subtest
    - ▮ scoring system deducts points for incorrect syntactic forms
    - ▮ post-hoc scoring system for noun animacy and verb transitivity

## Summary

	Hyponymy	Theme	Prototype Variability	Part - Whole	Syntactic Category
CELF - P					✓
CDI					✓
PLS - III	✓	✓		✓	
PPVT - III					
ROWPVT					
EOWPVT - R					
EVT					

## Tasks for Assessing the Aspects of Semantic Sense

- Hyponymy
  - ▮ Tasks from PLS-3
    - ▮ identifying and labeling by superordinate category
  - ▮ Truth value judgements of hyponymic relationships
  - ▮ Sorting of objects/actions into smaller groups based on progressively specific labels

## Tasks for Assessing the Aspects of Semantic Sense

- Theme
  - ▮ Identify and label objects/actions by their function(s)
  - ▮ List all the ways to...
    - ▮ e.g., get to the city, connect two pieces of wood
  - ▮ Sentence generation using specific words
    - ▮ to evaluate thematic role

## Tasks for Assessing the Aspects of Semantic Sense

### ■ Prototype Variability

- After sorting into groups, rank objects from best to worst examples of the group label
- Include objects/actions in sorting activities that are not prototypical

## Tasks for Assessing the Aspects of Semantic Sense

### ■ Part-Whole

- Identify specific parts within whole pictures
- Compare and contrast specific parts of objects/actions
- Label as many parts of a picture as possible

## Tasks for Assessing the Aspects of Semantic Sense

### ■ Syntactic Category

- Sentence generation using specific words
- Grammatical judgements of sentences

## Semantic Sense

### ■ Communication between the clinical and research communities:

- Clinicians can report which tasks are the most useful in assessment and intervention.
- Researchers can use this knowledge to further understand lexical development.

- Please contact me with your ideas & stories:  
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### Semantic Skills of Children with LI

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