Understanding Errors in Verb Tense by Typically Developing Preschool Children

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Normal Grammatical Development

Typically developing preschoolers optionally omit verb tense (Rice, Wexler, & Hershberger, 1998; Wexler, 1994)

- Third Person Singular
  - – **Everyday she dance_ (dances)*
- Past Tense
  - – **Yesterday she dance_ (danced)*
- Be Copula (singular)
  - – **She __ happy*
  - – **She happy?*
- Be Auxiliary (singular)
  - – **She __ dancing*
  - – **She dancing?*
- Do (singular)
  - – **Do she like dancing?*

Tense Marker Criterion Scores (Test of Early Grammatical Impairment; Rice & Wexler, 2001)	3-years	4-years	5-years
Third Person Singular:			
"She dances"	51	76	81-89
Past Tense:			
"She danced"	60-68	68-73	73-79
BE:			
"She is dancing" *"Is she dancing?"* *"She is happy"* *"Is she happy?"*	37-81	80-93	79-83
DO:			
"Does she like dancing?"	25-31	46	56

Verb Characteristics

Neighborhood density: The number of words that sound similar to a target word (Luce & Pisoni, 1998)

A "neighbor" differs from a target word by a 1 sound change

- – *Dense* words have many neighbors
- – *Sparse* words have few neighbors

Read 24 neighbors ~ Dense				Crawl 4 neighbors ~ Sparse			
Breed	Feed	Red	Reach	Brawl	C_all	Cruel	Cross
Greed	Heed	Road	Reap				
Creed	Need	Rod	Wreathe				
	Bead	Rude	Wreak				
	Seed	Raid	Real				
	Deed	Rid	Ream				
	Lead		Reef				
	Weed						

Neighborhood Density & Normal Language Development

Children's early vocabularies consist of more dense, than sparse words (Storkel, 2004)

Children learn dense words better than sparse words (Storkel, 2001; Storkel, 2003)

The effect of neighborhood density on grammar development has not been examined

Research Question

Does neighborhood density influence production of the third person singular tense marker in sentence imitation and spontaneous elicitation tasks?

Participants

Number of Children	9
Age (2 boys, 7 girls)	37 months (35-39)
Third Person Singular Accuracy (TEGI)	48% (13% – 78%)
Receptive Vocabulary (PPVT-4 Standard Score)	114 (96-138)

**All children were native English speakers

**All children had normal hearing

**All children correctly articulated word final [s, z]

Stimuli

30 early-acquired verbs

- 15 dense: M=18 neighbors
- 15 sparse: M=10 neighbors

Sentence Imitation Task

Children were asked to repeat 30 pre-recorded sentences including the third person singular structure

15 sentences with a **dense** verb

- – *The woman kicks the ball*
  - Kicks: 21 neighbors

15 sentences with a **sparse** verb

- – *The woman moves the ball*
  - Moves: 5 neighbors

Spontaneous Elicitation Task

Children were asked to generate a sentence after hearing a prerecorded script.

- 15 scripts including sentences with a dense verb
- 15 scripts including sentences with a sparse verb

"Here is a woman and this is the ball. The woman's job is to kick the ball. Now you tell me what the woman does every day at her job. Everyday she___"

"Here is a woman and this is the ball. The woman's job is to move the ball. Now you tell me what the woman does every day at her job. Everyday she___"

Scoring

Sentences in both tasks were scored as:

- Correct
  - –Moves
- Incorrect
  - –Move__
- Un-scorable
  - –Non-target verb (e.g., throws)
  - –Different tense marker (e.g., moved)
  - –No-response

Independent Variable

Neighborhood density of the target verbs

- Dense versus sparse

Dependent Variable

Accuracy of third person singular production on a target verb

- Correct / (Correct + Incorrect)

Preliminary Results

2 (neighborhood density) x 2 (task) ANOVA

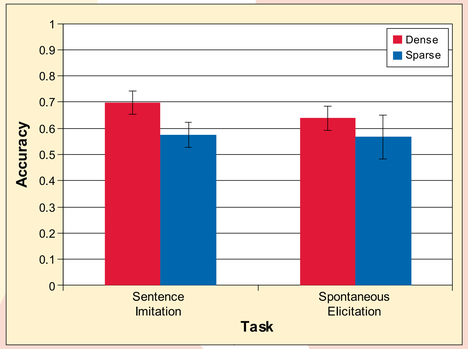
Significant effect of neighborhood density

$F(1, 8) = 8.083$, $p = .022$, $\eta^2 = .502$

Dense > Sparse

No main effect of task

No interaction between neighborhood density and task



Summary & Conclusions

- Children make fewer grammatical errors on dense verbs when repeating sentences and when producing a sentence after elicitation
- The words a child knows & uses may affect their grammatical development
  - –Verbs that sound similar to many other verbs may be less prone to errors in tense marking
- A better understanding of verb tense errors may aid in identifying more effective treatment strategies for children with grammar impairments

Ongoing Data Collection

- Recruiting additional 3-year-olds
- Recruiting 4- and 5-year olds with Specific Language Impairment (SLI)
- Treatment Study
  - –Does providing exposure to dense or sparse verbs during treatment facilitate growth in tense marking for typically developing children and children with SLI?

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