Lexical Representations and Growth in Morphosyntax

Specific Language Impairment (SLI)

- Affects approximately 7% of kindergarten children
- Delayed language comprehension and/or production with no obvious cause or presence of developmental disability
- Late language emergence (i.e., first words)
- Core impairment in the emergence and mastery of morphosyntactic markers
- ▷ Third person singular (e.g., he kicks)
- ▷ Past tense (e.g., he kicked)
- ▷ Copula and Auxiliary Be (e.g., She <u>is</u> happy; They <u>are</u> happy; he <u>is</u> kicking; they <u>are</u> kicking)
- ▷ Auxiliary Do (e.g., <u>Does</u> she like milk?)
- Children with SLI can make errors of omission (e.g., she kick the ball) on these forms until 8-years of age
- Few studies have considered how to increase the rate of growth for morphosyntactic forms

Neighborhood Density

- The number of similar sounding words based on a one sound substitution, addition, or deletion ▷ Neighbors of "kick": kiss, click, kit, cake, tick, pick, etc.
- Dense words have many neighbors (kick: 21 neighbors)
- Sparse words have few neighbors (move: 5 neighbors)
- Dense and sparse words are processed differently by typically developing children across a variety of language tasks ▷ Dense words facilitate production, memory, and novel word learning
- Sparse words facilitate recognition and sound changes
- What about neighborhood density and growth in morphosyntax?
- Do certain verbs (dense vs. sparse) differentially trigger growth in finiteness marking?

Main Research Question:

• Does manipulating the neighborhood density of verbs presented during a controlled exposure learning task increase the rate of third person singular production in treated and un-treated verbs for children with SLI?

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For more information

www2.ku.edu/~wrdlrng/hoover



- condition)
- Baseline period (3 to 5 sessions of morphosyntax monitoring) • Exposure/treatment period (12 sessions across 6 weeks)
- Post-exposure test (1 session immediately after 12 exposure sessions)

¹TEGI Probe Sco

Third Person

Past Tense

Be Probe

Do Probe

Grammar Com

Spontaneous Third Person Sin MLU in Words

PPVT-4 Standard

*All children had normal hearing, normal nonverbal intelligence, and were native English speakers * All children were able to correctly articulate word final /s, z, t, d/ ¹TEGI: Rice-Wexler Test of Early Grammatical Impairment

Dense
(
(
N
]
B
r
M = 1.3

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General Procedures

• Single subject controlled exposure design (n = 3 children per condition) • Random assignment to 1 of 2 conditions (dense or sparse exposure

Participants

	Dense Condition (n = 3)	Sparse Condition (n = 3)
	4;8	4;4
ores		
Singular	31%	18%
	10%	20%
	40%	28%
	0%	0%
mposite	20%	17%
ngular	21%	36%
	3.0	3.7
rd Score	93	99

Stimuli

e Verb Set	Sparse Verb Set		
Spin	Work		
Crash	Laugh		
Make	Drive		
Peek	Step		
Bump	Fix		
Take	Give		
3 neighbors	M = 6 neighbors		

Exposure/Treatment Session

Task	Child's	Adult's
	Production	Production
Story	0	24
Story Re-tell	12	0
Elicited Imitation + Game	12	0
Direct Imitation + Game	12	12
Cumulative Exposures	36	36



Dense Script

It's almost time to go inside, but first Zoe and Max want to make a snowman. Zoe **MAKES** the snowman's body. Max **MAKES** the snowman's head. Zoe and Max want to make a face for the snowman. Zoe **MAKES** the snowman's eyes and nose while Max **MAKES** the snowman's mouth. The snowman is going to look so great when Zoe and Max are done!

Measures of Learning

	Treated Words	Untreated Words		
		Within-Density Generalization	Across-Density Generalization	
Dense Condition	3S + Dense Words	3S + Dense un- treated words	3S + Sparse un- treated words	
Sparse Condition	3S + Sparse Words	3S + Sparse untreated words	3S + Dense un- treated words	

Note: Learning was measured by performance on two production tasks created specifically for this study.

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Sparse Script

It's almost time to go inside, but first Zoe and Max want to fix their snowman. Zoe **FIXES** the snowman's body. Max **FIXES** the snowman's head. Zoe and Max want to fix the snowman's face. Zoe **FIXES** the snowman's eyes and nose while Max **FIXES** the snowman's mouth. The snowman is going to look so great when Zoe and Max are done!





	Dense	Sparse	Dense
	TX % > BL %	TX % > BL %	Pre-Post % Diff
Child 47	0		-19%
Child 48	6		-3%
Child 53	5		21%
Child 45		12	
Child 49		9	
Child 54		11	
Mean	3.7	10.7	-3%
Range	0 - 6	9 - 12	-19% - 21%

