



The University of New Mexico

Teaching Morphology to Students with AAC Needs

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Overview

- What do we know about morphology and AAC?
- Assessing grammatical morphology
- Who should receive morphology intervention?
- Device and representational issues
- Teaching morphology
 - Research findings
 - Tips for intervention

What Do We Know about Morphology and AAC?

AAC Grammar Review (Binger & Light, 2008)

- Few individuals who use AAC achieve grammar mastery
- Overall: Mixed results
 - No clear patterns emerged from the review
 - Do have a tendency to exhibit problems with grammar

Grammar Review, con't

- Receptive morphology
 - Some may be particularly prone to receptive morphology problems (Blockberger & Johnston, 2003)
 - But some students are within normal limits (e.g., Binger , Kent-Walsh, et al., 2008; Binger & Light, 2007)
- Expressive morphology
 - Some students may use grammatical markers (Kelford Smith et al., 1989)
 - Others do not use even simple inflectional morphemes such as possessive 's and regular past tense *-ed* (Blockberger & Johnston, 2003)

Grammar Review, con't

- Grammatical morpheme intervention
 - Very few studies completed
 - Little high quality information at present
 - Only 2 experimentally controlled studies
 - Two adults learned to use 2 new grammatical structures, but lengthy intervention for one participant (Lund & Light, 2003)
 - Three elementary students each quickly learned to produce 3 grammatical morphemes (Binger et al., submitted)
 - But needed additional intervention to maintain targets

- Why are findings inconsistent?
 - Not much data to date
 - VERY heterogeneous population
 - Age, disabilities, degree of speech impairment, etc.
 - Inconsistent reporting of key participant characteristics
 - Cognitive status
 - Other language scores
 - Speech intelligibility

- What are the take-home messages, re: what we currently know?
 - Students who use AAC do tend to have problems with morphology
 - Receptive and expressive
 - Varies depending on their profiles
 - There's a lot we need to learn about this
 - Area that has been neglected
 - Research-wise and clinically
 - Need to consider this area for intervention for some students who use AAC

Assessing Morphology

- Receptive morphology
 - Standardized tests
 - CASL, Rice-Wexler, TACL, TOLD have subtests for receptive morphology
 - “Show me, ‘The girl is jumping.’
 - See Morphology Resources handout for MUCH more info
 - Grammaticality judgment tasks (e.g., Blockberger & Johnston, 2003)
 - Yes/no response
 - Grammaticality judgment subtest on CASL
 - Alternate format: A dog puppet speaks. Student feeds dog a biscuit if sentence sounds ok, and not feed him if he makes a mistake (Blockberger & Johnston, 2003)
 - Dog: “Yesterday the monkey climb a tree.” (no biscuit)
 - Could do this with a standardized test (careful w/ norms)

- Expressive morphology
 - Language and writing sampling (e.g., Kelford Smith et al., 1989; Lund)
 - Good for overall picture of language use
 - May not perceive grammatical markers as necessary (esp w/ language sample)
 - May not get specific morphemes of interest
 - Standardized Tests
 - See Morphology Resources handout for MUCH more info
- Picture description task (e.g., Smith, 1996)
- Sentence completion/ close sentences (Binger et al., submitted; Blockberger & Johnston, 2003)
 - E.g., Here is one hat and here are two _____.
 - Can use felt board and clipart
 - www.cathybinger.com for 5 grammatical morphemes (50 probes per morpheme)

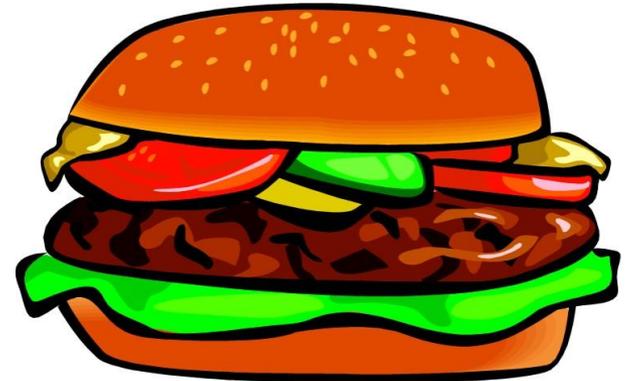
Example of Sentence Completion

Probe: Possessive 's

probes posted www.cathybinger.com



- Researcher: “Here is [grandma] and here is her [hamburger]. This [hamburger] belongs to [grandma]. The hamburger is...”
- Child: *GRANDMA + 'S*



Who Should Receive Morphology Intervention?



- Keep your “SLP hat” on
 - Look at language skills as you would with any other student with a language disorder (who is NOT using AAC)
 - Always remember that AAC is simply a tool to reach the same goals that you’d strive for with any other student
 - Set similar goals and objectives as for non-AAC students

Who Should Receive Morphology Intervention?

- Developmental Model
 - Brown's grammatical morphemes
 - Children without cognitive impairments
 - Mastery of some morphemes as early as 19 months
 - All mastered by age 4
 - Examine language profile
 - Can use age-equivalent scores for receptive vocabulary as a guide
 - If age equivalent scores are over 2;0, you should be thinking about including morphological targets (receptive & expressive)

Setting Priorities for Expressive Language

- If receptive language scores of at least 2;0 and still have the following issues, need to work here first
 - Semantics
 - Limited expressive vocabulary (e.g., lots of nouns but few verbs, adjectives, pronouns, etc.)
 - Syntax
 - Limited use of multi-word sentences
 - Little diversity with semantic-syntactic categories
 - E.g., agent-action-object but not descriptor-object, possessor-possession

Device and Representational Issues for Expressive Morphology

- Many questions remain re: when and how young children can use abstract icons
- Not a good enough reason to ignore grammar development
- Must ensure ACCESS to grammar
 - Too many students who have the potential to further develop their language skills have devices that do not allow for language development

Teaching Grammatical Morphology

- VERY little direct evidence to support any particular program
- Only two AAC morphology studies published to date that contained experimental controls
 - Lund & Light, 2003
 - Binger, Maguire-Marshall, & Kent-Walsh, submitted
- BUT: Lots of research on children with language disorders that can be informative

Lund & Light, 2003

- 2 adults w/ CP
 - Persistent grammatical errors
- Direct instruction
 - Explanation of grammatical rules
 - Requires metalinguistic skills
 - “Remember that the adjective goes *right before* the noun”
 - Identification of correct and incorrect forms
 - Grammaticality judgment & correction task “‘I need my book blue.’ Is that correct?”
 - Correction of incorrect forms
- Successfully learned 2 grammatical forms each
 - But lengthy instruction; > 50 hours for one participant

Binger, Maguire-Marshall, & Kent-Walsh

- 3 elementary children
- Ages = 11, 6, & 9
- Age eq. 6;3, 4;9, & 5;0 on Grammatical Morphemes subtest of TACL-3
- Vantage/Vanguard
- Used few, if any, grammatical morphemes

- Intervention Phase I

- Aided AAC models (Binger & Light, 2007)

- Spoken model = grammatically complete message
 - Aided AAC = targeted form

- “Scooby-Doo is eating Scooby-snacks. *HE IS EATING*”

- Recasts

- Revised errors

- Alex: *HE ARE EAT.*

- Researcher: Let’s try, “He is eating” *HE IS EATING*

- Completed sentences

- Ian: *THEY*

- Researcher: *THEY KICK + ED*

- Intervention Phase II

- Added Contrastive Targets

- Ian:

- The girl is running *GIRL IS RUN + ING*
with

- The girl’s baseball *GIRL ’S BASEBALL*

- All maintained use after contrastive targets used

Tips for Intervention: Adapt for Each Student

- Direct instruction more appropriate for those with more metalinguistic knowledge
 - E.g., can discuss parts of speech
- Lots of modeling may be better for others
- Be sure to contrast targets with current usage and with similar morphemes
 - E.g., present progressive vs. past tense
- May help to describe icons on device
 - E.g., water pouring *ing* out of bucket on Vantage

Tips for Intervention: Prompting Techniques

Table on “Morphology Resources” handout

- Expectant delay
- Forced alternative questions
 - Clinician: “Which is it? The boy walk *BOY WALK* or the boy is walking *BOY IS WALK + ING?*”
- High saliency context
 - Clinician: “Is the boy walking?” *IS BOY WALK + ING?*
- Mands
 - Clinician: “Tell me, ‘The boy is walking’ *BOY IS WALK + ING*”

Tips for Intervention: Responding Techniques

- Follow child's lead
 - Child; [Points to boy]
 - Clinician: "The boy is walking." *THE BOY IS WALK + ING*
- Contingent query
 - Child: *WALK*
 - Clinician: "What is the boy doing?" *WHAT BOY DO + ING*
- Corrective feedback
 - Child: *BOY WALK*
 - Clinician: "No, say, 'The boy is walking'" *BOY IS WALK + ING*
- Expansions and recasts
 - Child: *BOY WALK*
 - Clinician: "The boy is walking" *BOY IS WALK + ING*

Tips for Intervention:

Contexts for Targeting Grammar/ Morphemes

- Not appropriate to target in some settings
 - Quick social exchanges
 - High cognitive load for other aspects of an activity
 - Never a good time to teach new skills
- Is appropriate in some settings
 - Focused time to work on language skills
 - Select particular in-class activities
 - Make clear when using more grammatically complete messages are and are not a focus