

Grammar Assessment and Intervention with Individuals who use AAC

Cathy Binger

Janice Light

Penn State University
Department of Communication Sciences and Disorders

Why worry about grammar?

- Grammar allows us to express and comprehend meaning
- Those who have not mastered grammar skills will likely have difficulties with clearly conveying thoughts, fulfilling academic requirements, securing and maintaining employment
- Morphology and syntax are areas of vulnerability for individuals who use AAC (Binger & Light, 2002)

What do we need to do?

- Assessment
 - Determine current functioning
 - Morphology
 - Syntax
- Intervention
 - Set goals based on Ax findings and individual's needs
 - Create an intervention plan to address difficulties

- Must carefully consider the advantages and disadvantages of Ax & Tx approaches
 - Level of developmental difficulty
 - Symbol requirements
 - Determining how to represent grammatical structures is a complex issue!
 - Cognitive, visual, auditory, motor demands
 - Ecological validity (i.e., reflective of nat. environ)

Grammar Assessment Tasks

- Comprehension
 - Picture identification (e.g., TROG, TOLD, CELF)
 - Adaptations
 - May need to change size/location of pictures
 - May need to use partner-assisted scanning
 - » Increases cognitive load (Mizuko et al., 1994)
 - Object manipulation (e.g., Sutton & Gallagher, 1995)
 - Adaptations
 - Clinician may need to act out routines instead of child
 - May use augmented input

- Grammaticality judgment (e.g., Lund & Light, 2003)
 - Two common types (Gordon, 1998)
 - Yes/no task: Individual responds with “yes” or “no”
 - Reward/punishment task: individual rewards or punishes puppet for making a true or false statement
 - Adaptations
 - Response may need to be nonverbal for some individuals (e.g., head nod/shake)
 - May not have motor capability to perform reward/punishment task

- Expression
 - Language sampling (e.g., Miller, 1981)
 - Adaptations
 - Individual may use AAC for productions (true for all expressive tasks)
 - Variety of analyses, e.g.,
 - Presence/absence of morphemes
 - Frequency and proportion of turns containing more than one concept (e.g., Lund & Duchan, 1988)
 - Mean number concepts used (e.g., Lund, 2001)
 - MLU (not recommended; Nelson, 1992)
 - Good starting point to assess typical performance

- Writing sampling (e.g., Kelford Smith et al., 1989)
 - Adaptations
 - Individual uses AAC for productions
 - Technology available on some high tech systems to save all productions produced via the VOCA
 - » e.g., Augmentative Communication Quantitative Analysis (ACQUA), Language Activity Monitoring (LAM)
 - » Must carefully consider ethical issues (confidentiality, informed consent)
 - Variety of Analyses
 - Same as language sampling
 - Good starting point to assess typical production

Grammar Intervention: Goals

- Goals may focus on:
 - Building comprehension: morphology & syntax
 - Building expression: morphology & syntax
- Goals selected depend on individual' s:
 - Developmental level
 - Symbolic level (e.g., ability to use traditional orthography, etc.)
 - Needs within different environments (e.g., with friends, at school, at work)
 - Have to decide when grammar is and is not worth the “costs”

Grammar Intervention: Tasks

(Many of these tasks also may be used for Ax)

- Comprehension
 - Recasts/expansions/extensions (e.g., Cleave & Fey, 1997)
 - Adaptations
 - May use augmented input (speech + AAC)
 - Also (indirectly) prompts *expressive* productions
 - Forced alternative questions (e.g., Fey et al., 1997)
 - Adaptations
 - Frequently used as expressive task (i.e., individual repeats their choice); can be modified so that individual makes choice nonverbally

- Expression
 - Imitation (e.g., Camarata & Nelson, 1992)
 - Adaptations
 - May use augmented input (speech + AAC)
 - May use AAC for productions (true for all expressive tasks)
 - Modeling (direct or indirect) (e.g., Fey et al., 1993)
 - Adaptations
 - May use augmented input (speech + AAC)
 - Elicitation questions (e.g., Fey et al., 1993)
 - Adaptations
 - May use augmented input (speech + AAC)

- Sentence completion (e.g., Blockberger, 1997)
 - Adaptations
 - None, except individual's responses may be via AAC
- Correction of incorrect forms (Lund & Light, 2003)
 - Adaptations
 - May use augmented input (speech + AAC)
 - May use speech + writing via traditional orthography
 - May be used in conjunction with grammaticality judgment task

- **Formulated sentences** (e.g., Semel, 1995)
 - Task: Individual makes up sentence using word(s) provided by clinician
 - Adaptations
 - None required
 - Requires metalinguistic knowledge
- **Explanation of grammatical rules** (e.g., Lund & Light, 1993)
 - Adaptations
 - Clinician may need to cite grammar rules instead of client
 - High metalinguistic demands

Concluding Remarks

- There are other tasks we did not discuss
 - This is not a comprehensive list
- Need to use several approaches when assessing to ensure validity of results
 - Typical performance vs. competence
- Representation issues are significant
 - Need to consider ways of teaching grammar via comprehension for some individuals

- Grammar has been neglected in the AAC field
 - Attaining grammar skills is a critical component of clear communication
- Valid, reliable means of assessment need to be established
- Evidence-based interventions need to be developed and evaluated