# Coding and Analyzing Semantic-Syntactic Relations with a Child who Uses Aided AAC

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## Background

- Little is known regarding how children who use graphic symbols learn to use early combinatorial language
- The acquisition of such syntax is key for children using aided AAC
- What we know:
    - Preschoolers who use graphic symbols to communicate tend to produce single symbol messages (Binger& Light, 2008)
    - When children do use multi-symbol messages, they tend to violate English syntactic rules (Binger & Light, 2008; Smith & Grove, 2003)
- To develop effective intervention programs, the acquisition of language using aided AAC must be further investigated
    - One initial step: Examine the development and use of semantic-syntactic categories
- Current investigation: Post-hoc analyses of a study of a child who used graphic symbols to communicate
    - Child originally was instructed in the use of three semantic-syntactic structures (Rowe, 2012)

## Method

Design
- Post-hoc analyses based on an experimentally controlled, single subject, multiple probe across targets study (Rowe, 2012)

Participant
- "Jorge," age 5;1, developmentally delayed with motor speech impairment

Materials
- Puppets, Photographs, Dynavox 4

Measures
- Post-hoc analyses of two-term semantic-syntactic relations
    - Possessor-entity
    - Action-object
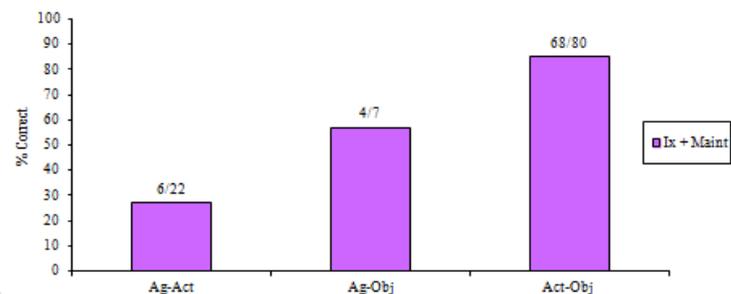    - Attribute-entity

## Discussion

Possessor-entity
- Relatively few possessor-entity messages could be coded; low salience of the target may have contributed to these results
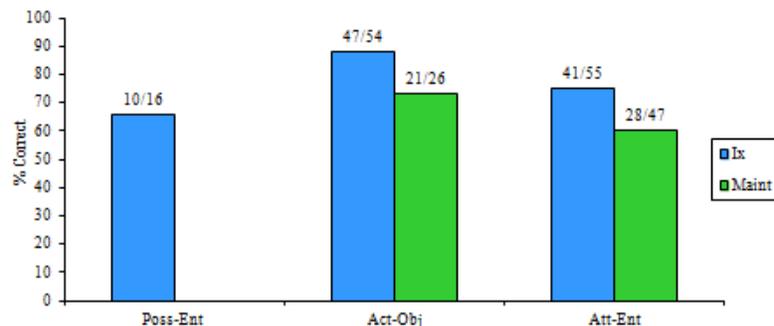
Action-object
- Jorge produced more action-object messages than agent-action and agent-object
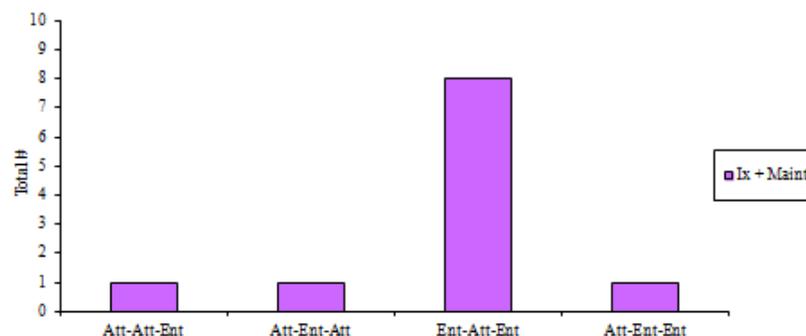    - Most aided AAC models were for action-object

### Two-Term Agent-Action-Object Messages with Correct Word Order



### Two-Term Messages with Correct Word Order



### Three-Term Messages Containing Attribute & Entity

- Jorge produced more two-term messages than longer messages
  - Most aided AAC models were two-term models

Attribute-entity
- Jorge acquired the target quickly and maintained accuracy
  - Saliency of the target, motivation, and familiarity with the task may have contributed to success
- For 3-term productions, Jorge produced more entity-attribute-entity messages compared with other combinations
  - May reflect a tendency to begin graphic symbol messages by providing a context or focus for communication

**Two-Term Messages with Correct Word Order by Session**
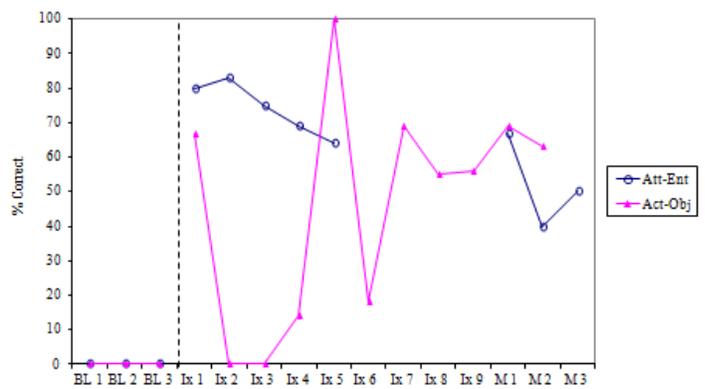


**Percent Codable Multi-Symbol Messages Across All Targets and Sessions**

| Target | Percent | Number |
|---|---|---|
| Possessor-Entity | 19% | 15/80 |
| Action-Object | 64% | 136/213 |
| Attribute-Entity | 72% | 133/186 |

**Total Number of Agent-Action, Action-Object, and Agent-Object Combinations Across All Sessions**

| Target | 2-term | 3-term | 3+-term |
|---|---|---|---|
| Various agent-action-object combinations | 105 | 14 | 4 |

**References**
Binger, C. & Light, J. (2008). The morphology and syntax of individuals who use AAC: Research review and implications for effective practice. *Augmentative and Alternative Communication, 24 (2),* 123-138.

Rowe, K., Binger, C., & Kent-Walsh, J. (2012; August). *Teaching semantic-syntactic categories to a child who uses AAC.* Poster presented at the 15th Biennial conference of the International Society of Augmentative and Alternative Communication. Pittsburgh, PA.

Smith, M. & Grove, N. (2003). Asymmetry in input and output for individuals who use augmentative and alternative communication. In J. Light, D. Beukelman, & J. Reichle (Eds), *Communicative competence of individuals who use augmentative and alternative communication.* Baltimore, MD: Paul H. Brookes.