Classifier handshape acquisition in ASL (revisited)

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Research Questions

- What is the order of acquisition of classifier handshapes in children acquiring ASL as a first language

- How does the of classifier handshapes in native-signing children compare with the use of similar-looking handshapes in hearing children when they gesture without using their voices?

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Classifier Types under Investigation

- **Whole Entity (SCL):** handshape that represents the whole object

- **Part Object (SASS):** handshape that represents part of the object

- **Handling (HCL):** handshape that represents how the object is handled

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Background/Current Debate concerning classifier acquisition

Supalla (1982); Schick (1987)	**Slobin & Hoiting (2003); Schick (2006)**
1) whole entity: -4 years	Claims that handshape classifiers may appear much earlier —
2) part object: -5-6 years	
3) handling: -6-8 years of age	-less than 4 years of age

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Experimental Task: Participants

22 total participants:

12 Native Signers
—3 were 4;1-4;8 'younger children'

—6 were 7;8-12;11 'older children'

—3 adults.

10 gesturers:
—3 were 4;1-4;8 'younger children'

—4 were 7;8-12;11 older' children,

—3 adults.

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Procedure

- Video vignettes depicting 11 objects in 10 different conditions were shown to the participants.

- Signers responded in ASL.

- The gesturers responded in a gesture-only mode; i.e., they did not use their voices.

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Stimuli

Condition 3: Planes in a row   *Condition 8: Put planes in a row*

conditions without an agent	conditions with an agent
1. [object] on table	6. Put [object] on table
2. [object] on table upside down	7. Put [object] on table upside down
3. Multiple [objects] on table (regular arrangement in row/s)	8. Put multiple [objects] on table (regular arrangement in row/s)
4. Multiple [objects] on table (random arrangement)	9. Put multiple [objects] on table (random arrangement)
5. [object] falling	10. Demonstrate function of [object]

conditions 1-4 are photos; all other conditions are videos.

Coding of handshape type

Labeling portion: gestures or signs used to identify the object

Event portion: gestures or signs used to describe the spatial arrangement or the movement of the object

Whole entity/Part Object Classifiers >> OBJECT HSs

Handling Classifiers >> HANDLING HSs

NEITHER: (i) lexical verb; (ii) tracing; (iii) body agent

Transcription Details

- **Match:**
  — object handshapes for conditions **without an agent**
  — handling handshapes for conditions **with an agent**

- **Mismatch:**
  — object handshapes for conditions **with an agent**
  — handling handshapes for conditions **without an agent**

- **Neither:**
  — a lexical verb, a trace with a neutral handshape, or a body agent form

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% matches: per group per vignette type

vignette type	younger children		older children		adults	
	gesture	sign	gesture	sign	gesture	sign
no-agent	38%	40%	67%	79%	54%	93%
agent	69%	6%	50%	57%	43%	73%

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Gesturer using handling-HS

Discussion: Matches

- **Signers/Gesturers**: There is a significant developmental progression for both types of classifiers between each pair of groups (younger-older, older-adult). No developmental pattern in gesturers.

- **Signers**: The younger children have more matches in the vignettes without an agent, showing more mastery of "object-CL" rather than "handling-CLs at this age.

- **Gesturers**: The younger child gesturers are actually significantly better at matches on vignettes with an agents than the younger signing children.

% handshape type across groups and vignette types
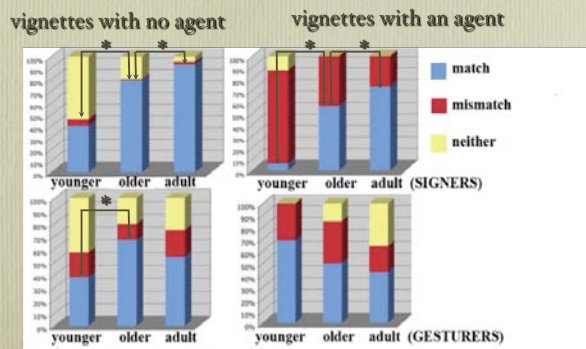
'*': p ≤ .05 Mann-Whitney between age groups.
Generalized Linear Model: Significant effect for "signer/gesturers": $\chi(2, 107)$, p=0.007)

Discussion:Substitutions
YELLOW & RED BARS

The two groups had statistically different overall patterns according to a GLM ($\chi(2, 107)$, p=0.007). However . . .

- **Gesturers & Signers**: All participants are more likely to substitute an Object-HS for a Handling-HS on vignettes with an agent. (Red bars)
- **Gesturers & Signers**: All participants are more likely to substitute a "Neither" for an Object-HS on vignettes without an agent. (yellow bars)
  - for signers these are lexical items
  - For gesturers these are tracing forms (index finger handshapes) in gesturers.

Implications

- **Signers**: This is an indication that the progression within the classifier predicate system is "object-CLs" before "handling-CLs", supporting the Supalla (1982) and Schick (1987) claims.

- **Gesturers' use of handling handshapes**: They are using a mimetic strategy ("hand-as-hand") iconicity.
  - One explanation of the findings by Slobin (2003) and Schick (2006) is that the young signing children who demonstrate the use of productive handling handshapes are not using them within the classifier system but rather to invent lexical items.
  - There is evidence to suggest that acquisition of lexical items with handling and object handshapes **precedes** there use in the classifier system (Brentari et al., submitted)

- Perhaps this simpler, mimetic, iconic strategy appears in very young, signing children (under 4 years of age), which are those reported in Slobin (2003) and Schick (2006).

Possible U-shaped curve for handling handshapes
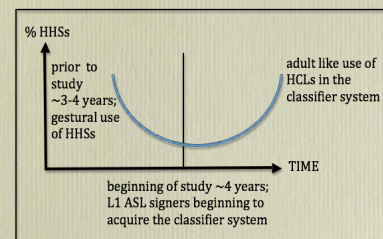
- By 4 years of age, signing children are learning the classifier system, so like many aspects of ASL grammar, the use of more difficult handling-CL handshapes is drastically reduced at they negotiate the new grammatical challenge.

Conclusions

- Despite the use of object and handling handshapes that look similar in sign and gesture, is it crucial to understand the role that they are playing the grammar before we attribute them to the classifier system.

- There are no classifier handshapes, per se, without looking at the role they are playing in a given system.

- There is evidence that for signing children acquiring the classifier system of ASL, object-CLs precede handling-CLs.

THANK YOU!