Spanish article-noun agreement acquisition

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• Gender agreement knowledge facilitates processing of nouns within a sentence or conversation.

• In Spanish, gender cannot be easily and reliably recovered from semantics, morphology or phonology although the word ending 'a' for feminine and 'o' for masculine can be a frequent cue to follow.

• Developmental studies on the production of grammatical gender correspondence have reported the use of determiner-noun pairs from as young as 19-months of age (Smith *et al*, 2003). However a considerable proportion of determiner noun disagreement can be observed even in 11 year-olds (Pérez-Pereira, 1991).

• In an experimental study Lew-Williams *et al.* (2007) found that children learning Spanish take advantage of gender-marker articles as referential cues in spoken language by the age of 34-42 months.

S's: Spanish learners, born full-term, no hearing or visual problems.

Experiment 1	Experiment 2
35 x 24-month-old (M=24.03; SD=15)	36 x 24-month-old (M=24.04; SD=15)
34 x 30-month-old (M=24.05; SD=15)	26 x 30-month-old (M=24.03; SD=15)
31 x 36-month-old (M=24.05; SD=15)	27 x 36-month-old (M=24.04; SD=15)

Procedure

Inter-modal Preferential Looking Paradigm

Design

Experiment 1 (LA / EL)
• 20 familiar target-distracter objects
• 10 feminine & 10 masculine nouns
• 10 counterbalanced trials:
  • *MIRA (*in each trial*)* + **LA** or **EL** + feminine or masculine noun (e.g., zapato)
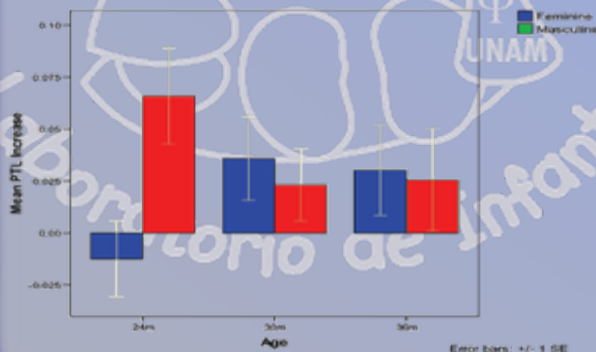
Experiment 2 (UNA / UN)
• 20 familiar target-distracter objects
• 10 feminine &10 masculine nouns
• 10 counterbalanced trials:
  MIRA + **UNA** or **UN** + feminine or masculine noun

Analysis

Off-line coding of digital recordings
Frame-by-frame system (every 30ms)
Inter- & intra-confiability r =. 98 (p <.001)

Trial presentation

Experiment 1
Cue word: Definite article (*la* or *el*)

Experiment 2
Cue word: Indefinite article (*una* or *un*)

PTL Increase: Change from pre- to post-naming
post-(T/T+D) – pre-(T/T+D), chance at 0.0ms

Results

Repeated measures ANOVA:
 Naming (pre- and post-naming) x Gender (masculine and feminine) x Experiment (1: definite and 2: indefinite) for each age.
24-month-olds
Naming x Gender (F(1, 70) = 7.12, p = .009, η2 = .092)
Target looking with masculine article t(71) = 2.85, p = .006 but not with feminine article t(71) = .686, p > 1.0
30-month-olds
Naming (F(1, 60) = 5.42, p = .023, η2 = .083)
36-month-olds: No effects or interactions

Conclusions

24m: Use both definite (el/la) and indefinite (un/una) articles to anticipate a masculine target.
30m: Use both definite (el/la) and indefinite (un/una) articles to anticipate masculine and feminine targets.
36m: Loss of this ability?

* Early use of grammatical cues to find a target.
* Improvement from 24- to 30-months.
*36 months may have become aware of the irregularities of the system, disrupting their ability to promptly use regular articles to disambiguate nouns.
* U-shaped learning seen on children's development of morphological knowledge (Plunkett & Marchman, 1991).

Further questions

Explore acquisition of irregular cases (e.g., el calcetín)
To examine the mechanisms of acquisition

References
Lew-Williams, C. & Fernald, A. (2007). Young Children Learning Spanish Make Rapid Use of Grammatical Gender in Spoken Word Recognition. *Psychological Science 18(3)*, 193-198.
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