This abstract has been accepted for presentation at the Interdisciplinary Workshop “Sign Language Grammars, Parsing Models, & the Brain”, 6-7 November 2025, Max Planck Institute for Human Cognitive & Brain Sciences, Leipzig, Germany. For further information about the event visit: https://sign-language-grammars-parsers-brain.github.io

Lexical Decision in Uruguayan Sign Language (LSU)

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Abstract

Lexical recognition and access are fundamental to language comprehension. This study investigated these processes in Uruguayan Sign Language (LSU), a language undergoing standardization that remains relatively under-documented. We examined the impact of iconicity and the relationship between gesturing and lexicalization. Gestures present a paradox: they share perceptual and linguistic properties with signs but lack linguistic convention, potentially triggering cognitive conflicts that are reflected in longer reaction times in lexical decision tasks. For the present study, 31 deaf, fluent LSU signers completed a lexical decision task—a paradigm suitable for revealing the cognitive boundaries of the lexicon. Gestures were included as stimuli to directly probe this boundary. Results showed equivalent recognition speeds for iconic and noniconic signs, indicating that semantic transparency did not hinder access for established lexical items. However, participants were significantly slower to reject non signs and, crucially, gestures, than signs (independently of their iconicity). This was accompanied by a higher error rate, suggesting a tendency to perceive gestures as actual signs. These findings provide evidence for the cognitive reality of lexical and grammatical evolution of sign languages. The increased latency and error rates for gestures reflect the active cognitive process of inhibiting a form that is not yet fully lexicalized but sits on the continuum toward becoming a sign. These findings are consistent with gradation-based models of sign recognition, which propose a continuum between gesture and language rather than a strict dichotomy. Finally, we discuss limitations of the study and the theoretical implications of our findings for understanding language emergence and change.

Keywords: *Uruguayan Sign Language*, *Lexicalization*, *Grammar, Iconicity*, *Gesturing*.

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Results

Table 1. Latencies and accuracy for all conditions.

Conditions	Mean (ACC)
Noniconic sign	1.288 (0.92)
Iconic sign	1.324 (0.94)
Non sign	1.430 (0.93)
Gesture	1.718 (0.24)

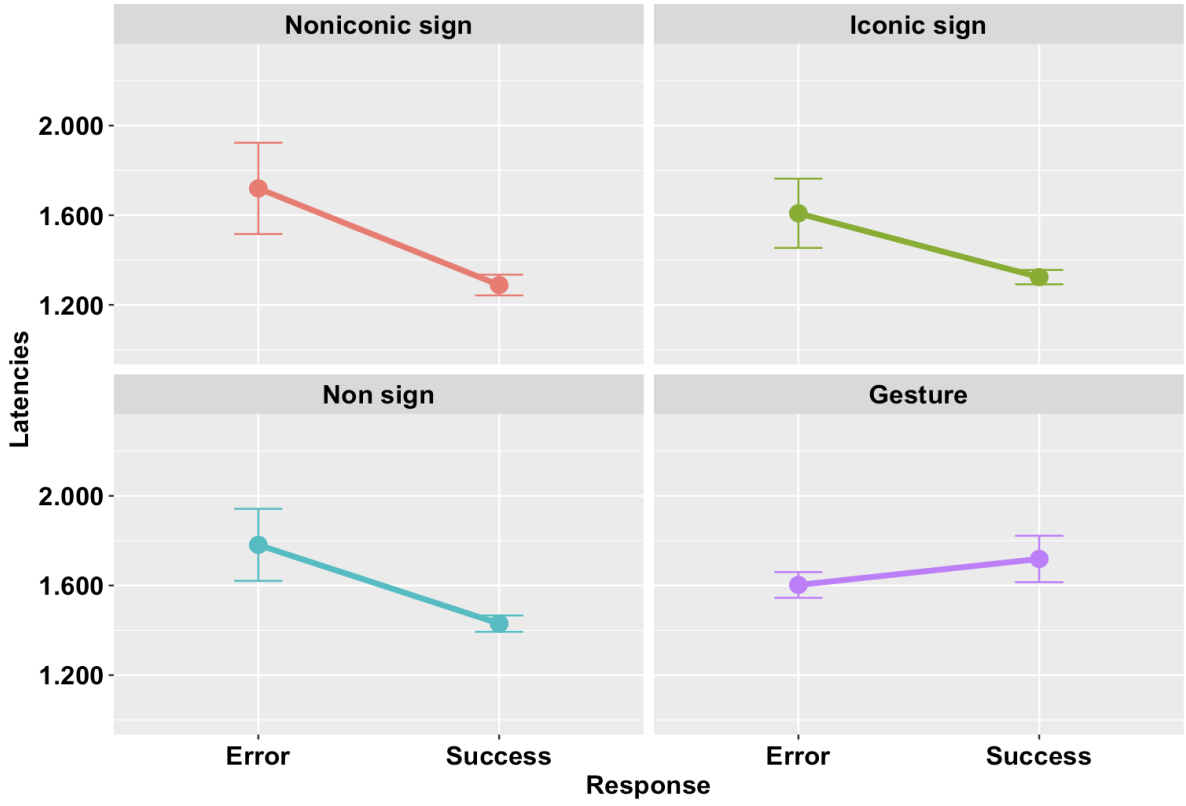

Figure 1. Lines plot and CI 95 % for latencies (seconds) distribution for Kind of stimuli. The participants’ task consisted of judging a sign using a manual response (Yes: It is an LSU actual sign. No: It is not an actual LSU sign). Success means that the participants responsed as expected.