

Do children who produce C/r/V as C[l]/V also detect C[l]/V as C/r/V? Acquiring branching onsets in Brazilian Portuguese

This study explores the relation between production and perception in the development course of CCV branching onsets (Consonant₁+Consonant₂+Vowel) in Brazilian Portuguese (BP). In BP, CCVs are formed by plosives plus liquids (lateral /l/ or tap /r/), as in /plaka/ *sign*, /prato/ *dish*. Previous studies^{1,2} show that /r/→[l] switches are common both in CCV and CV children's productions: /bru[a]/→[b]u.je] 'witch'; /barata/→[ba'la.te] 'cockroach'. We raise two hypotheses to account for this liquid switch: i) children's CCV outputs are due to an underspecified³ representation of the liquids, which becomes more detailed as the Phonology develops; or ii) liquid switches reflect adult-like representations that are affected by articulatory constraints. Considering these hypotheses, our goal is to investigate 1) whether the underlying lexical representations have fully specified liquids since the beginning of the syllable acquisition process; and 2) whether a child who produce liquid switches can recognize the same switches in the input. We conducted a word-repetition and a mispronunciation detection tasks testing if children would be sensitive to liquid mispronunciations (/l/→[r]; /r/→[l]); as control, we also tested the liquid mispronunciation detection in CV syllables. Participants were divided into three groups according to their productions: **Target_Group**: consistent target-like liquid production in CCV; **Swap_Group**: consistent liquid swapping; **Deletion_Group**: consistent liquid deletion. Results show that the Target_Group can detect mispronunciations in both liquid directions and syllable contexts, as expected. Deletion_Group accepted CCV and CV liquid mispronunciations in both directions at a random level. In Swap_Group an asymmetry is observed: liquid substitutions were productively detected in CV, but only partially detected on CCV. The detection pattern of the three groups agree with their production patterns: if liquids in CV and CCV are productively produced, they are also productively detected as mispronounced. Regarding the mispronunciation direction, in Swap_Group /tap/→[lateral] CCV mispronunciations were detected significantly more than /lateral/→[tap], which points out that children who produce a switch can perceive the same switch in their inputs, but not switches on the opposite way of their productions. Given these results, we argue that lateral-tap variability is tied to the phonotatic development of the child, and the asymmetry on /l, r/ detection results from the specification process of segmental features in lexical representations^{3,4}: considering /l/ as the default liquid segment⁵, we predict the unidirectional /tap/→[lateral] (/non-default/→[default]) detection. We conclude that CCV production and perception is tied to the phonotatic development and to the process of specification of the segmental properties on lexical representations.

References:

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