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Dutch children’s acquisition of morpho-phonological alternations in plural formation

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ABSTRACT
In Dutch, word final neutralization of voicing causes an alternation between singulars and plurals: e.g. one [bet] ‘bed’ ~ two [bedden] ‘beds’. Dutch-learning children were tested on their production of /t/ and /d/ in different morphological contexts. Children tended to produce /d/ as [t] in bi-morphemic words (e.g. [betn]), whereas they correctly produced /d/ in mono-morphemic words (e.g. [bet] ‘knight’). Children were also more accurate at positing singulars for novel plurals with /t/ (e.g. slaM) than for novel plurals with /d/ (e.g. slaMn). This finding suggests that 3 yr-olds have not yet learned about the phonotactics of voicing neutralization in relation to morpho-phonological alternations.

RESULTS: Part A

ABSTRACT

RESULTS: Part B

INTRODUCTION
• Dutch phonotactics do not allow voiced obstruents in word-final position: /Æ/. Most words do not show voicing alternation: Compare bed [bet] ‘bed’ to bedden [bedMn] ‘beds’.
• It has been argued that infants can acquire knowledge of voicing phonotactics, which aids the acquisition of morpho-phonological alternations (Hayes, 2004).
• However, 9- and 11-month-old Dutch infants show no preference for non-words ending in voiceless vs. voiced stops. E.g. fiet ~ *bed (Zamuner, in prep).
• Few studies have looked at young children’s production of morpho-phonological alternations. Knowledge of the Dutch voicing alternation seems to be acquired late and productivity of the pattern (in non-words) is low (Kerkhoff, 2004).

METHOD

Subjects
• Eighteen 30-32 month-old Dutch-learning children.
• Eighteen 42-44 month-old Dutch-learning children.

Stimuli
• 4 bi-morphemic words with /t/:
  - petten [petMn] ‘caps’
  - bedden [bedMn] ‘beds’
• 4 bi-morphemic words with /d/:
  - slaMn [sladMn] ‘knights’
  - slaM [slam] ‘knights’
• 4 mono-morphemic words with /t/:
  - water [water] ‘water’
• 4 mono-morphemic words with /d/:
  - ridder [ridM] ‘knight’

Procedure
• Picture-naming task: Children were presented with pictures of familiar objects using PowerPoint.

RESULTS: Part A

An ANOVA revealed a main effect of voicing (responses were more accurate for words with /t/), a main effect of morphology (responses were more accurate in mono-morphemic words), and a significant interaction between voicing and morphology. There was no effect of age.

Error Analysis
• 74% (20 out of 27) of errors comprised children’s producing /d/ as [t] (e.g. /bedMn/ ‘beds’ was produced as [betMn]).

Part B
• Do young children have knowledge of voicing neutralization and morpho-phonological alternations?
• Prediction: If children have knowledge of voicing neutralization, they should be equally good a positing a singular when given novel plurals with intervocalic /t/ versus /d/.

METHOD

Subjects
• Same as in Part A.

Stimuli
• 8 plural non-words with intervocalic /t/ or /d/:
  - slatten [slatMn] or sladden [sladMn]

Procedure
• Reversed wug-test: children were presented with pictures of non-words in the plural and asked to produce the singular.
  - These are two slatten /sladMn/.
  - This a ________.