

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 [bedən] '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. [betən]), whereas they correctly produced /d/ in mono-morphemic words (e.g. [ridər] 'knight'). Children were also more accurate at positing singulars for novel plurals with /t/ (e.g. slatən) than for novel plurals with /d/ (e.g. sladən). This finding suggests that 3 yr-olds have not yet learned about the phonotactics of voicing neutralization in relation to morpho-phonological alternations.

INTRODUCTION

- Dutch phonotactics do not allow voiced obstruents in word-final position: /bed/ → [bet].
- Most words do not show voicing alternation:
Compare *pet* /pet/ 'cap' to *petten* /petən/ 'caps'.
- Some words show voicing alternation:
Compare *bed* /bet/ 'bed' to *bedden* /bedən/ '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* = *fied (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).

PART A

- Do young children learning Dutch correctly produce voicing in non-alternating versus alternating contexts?

METHOD

Subjects

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

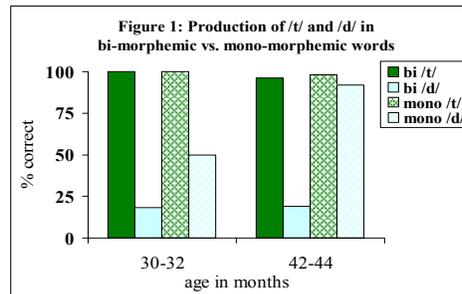
Stimuli

- 4 bi-morphemic words with /t/:
petten /petən/ 'caps'
- 4 bi-morphemic words with /d/:
bedden /bedən/ 'beds'
- 4 mono-morphemic words with /t/:
water /wator/ 'water'
- 4 mono-morphemic words with /d/:
ridder /ridər/ '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. /bedən/ 'beds' was produced as [betən]).

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 at 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* [slatən] or *sladden* [sladən].

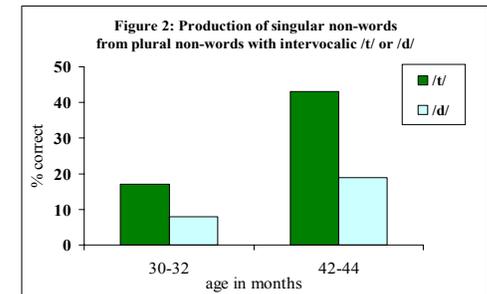
Procedure

- Reversed wug-test: children were presented with pictures of non-words in the plural and asked to produce the singular.

- These are two slatən / sladən.

- This a _____.

RESULTS: Part B



An ANOVA revealed a main effect of voicing (responses were more accurate for plurals with /t/). There was also an effect of age.

Error Analysis

- Almost all errors comprised children's producing a plural rather than a singular (e.g. repetition of *slatten* / *sladden*).
- In a few cases, singulars without codas were produced (e.g. *sla*).
- A perception test showed that these same children were aware of the singular / plural contrasts in these non-words.

CONCLUSIONS

- Dutch-learning children fail to reliably produce voicing in alternating contexts (Part A).
- Dutch-learning children are better at producing singulars when given non-words with intervocalic /t/ (non-alternating) than non-words with intervocalic /d/ (Part B).
- These results suggest that children have not yet fully acquired knowledge of voicing neutralization or morpho-phonological voicing alternations, even at a very late stage (44 months).
- We find no support for the claim that early knowledge of phonotactics may aid the acquisition of alternations.

References

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