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 [beden] ‘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. [beten]), 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. [sladden] ‘sladders’) than for novel plurals with /d/ (e.g. [slattend]). This finding suggests that 3-year-olds have not yet learned about the phonotactics of voicing neutralization in relation to morpho-phonological alternations.

RESULTS: Part A

![Figure 1: Production of /t/ and /d/ in bi-morphemic vs. mono-morphemic words](Image)

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. /beten/ ‘beds’ was produced as [bet])

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/.

RESULTS: Part B

![Figure 2: Production of singular non-words](Image)

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

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.

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 /petten/ ‘caps’
- 4 bi-morphemic words with /d/
  - bedden /bedden/ ‘beds’
- 4 mono-morphemic words with /t/
  - water /water/ ‘water’
- 4 mono-morphemic words with /d/
  - ridders /ridders/ ‘knights’

Procedure

- Picture-naming task: Children were presented with pictures of familiar objects using PowerPoint.
- Reversed wug-test: children were presented with pictures of non-words in the plural and asked to produce the singular.
  - These are two sladders.
  - This a _______.

References


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