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

Tania S. Zamuner*, Annemarie Kerkhoff†, Paula Fikkert*, Ellen Westrek*
*Radboud University Nijmegen, †Utrecht University

ABSTRACT
In Dutch, word final neutralization of voicing causes an alternation between singulars and plurals: e.g. one [bet] ‘bed’ ~ two [birden] ‘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. [betten]), whereas they correctly produced /t/ in mono-morphemic words (e.g. [bed] ‘bed’). Children were also more accurate at positing singulars for novel plurals with /t/ (e.g. slatten) than for novel plurals with /d/ (e.g. sladden). 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

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

• Most words do not show voicing alternation:

  Compare pet [pet] ‘cap’ to petten [petten] ‘caps’.

  Some words show voicing alternation:

  *bedden [bedden] ‘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).

RESULTS: Part B

An ANOVA revealed a main effect of voicing (responses were more accurate for words 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. slad).

• 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.

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 ‘knight’

Procedure

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

• Subjects were also presented with four different pictures of non-words in the plural and asked to produce the singular.

  • These are two slatten / sladden.

  • This is a _______.

METHOD

Subjects

• Same as in Part A.

Stimuli

• 8 plural non-words with intervocalic /t/ or /d/:

  slatten [slättn] or sladden [slädtn].

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 / sladden.

  • This is a _______.

REFERENCES


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