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Language-specific influences on nonword repetition: Evidence from monolingual children and early second language learners of German

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Background

This study presents a new approach to control for language-specific effects in nonword repetition (NRT). We constructed two subparts with language-independent (LI) and language-dependent (LD) nonwords (Chiat et al. 2013). Early second language (eL2) learners usually perform below age-matched monolingual (MON) children if nonwords correspond to the L2 phonology (Messer et al. 2010; Windsor et al. 2010) but resemble MON children in the error patterns (Tessier et al. 2012). The study examined if the repetition accuracies of the two groups differed for the two test parts and analyzed the reduction patterns in word-initial consonant clusters. Differences between MON children and eL2 learners were expected in LD nonwords , but not in LI nonwords and not in the reduction strategy of consonant clusters.

Research questions

(1) Do the eL2 children differ from MON children in the repetition accuracy and the frequency of error types?
(2) Are there differences between MON and eL2 learners in the reduction patterns of word-initial consonant clusters?

Participants

MON-TD group (n=10)
age 5;1 years (range 3;9-6;1)

eL2-TD children (n=4)
age 4;9 years (range 4;4-5;8)
LoE: 17 months (range 4-33)
L1's: Turkish (n=2), English (n=2)

Typical language development assessed via standardized test LiSe-DaZ (Schulz & Tracy 2011)

Method

- LI part (30 items): nonwords with typologically frequent sounds (/k, p, f, l/ and /a, i, u/; e.g. pilu, faplu)
- LD part (36 items): LI nonwords plus language-specific structure (for German: extrametrical /s/, e.g. spiklu)
- Item length: one to three syllables with constant word-inital stress
- Increasing complexity by addition of consonant clusters
- Items balanced for frequency of vowels and consonants

Results (1): Repetition accurracy and error rates

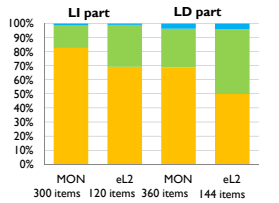
(A) Repetition accuracy:
- No group difference in LI (p=.284), nearly significant in LD (p=.005)

⇨ *Group differences in repetition accuracy more striking in LD part*

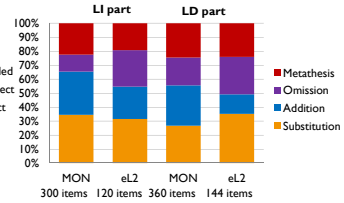
(B) Error types:
- Substitution (spiklu → sfiklu), omission (spiklu → piklu), addition (spiklu → spliklu), metathesis (spiklu → skiplu)
- Significant differences between MON and eL2 learners in total of errors (LI: p=.001; LD: p=.001).
- No significant difference between MON and eL2 learners in the rates of individual error types

⇨ *No significant group differences in the occurrence of error types*

(A) Correct vs. incorrect items



(B) Error types relative to total number of errors



Results (2): Reduction patterns of word-initial consonant clusters – which consonant is omitted?*

Cluster	Omission of	MON	eL2
CC (kluspi)	Sonorant (kuspi)	1.8 (2/110)	2.3 (1/44)
	Obstruent (luspi)	0 (0/110)	0 (0/44)
sC (sfupli)	Extrametrical /s/ (fupli)	12.5 (15/120)	16.7 (8/48)
	Obstruent (supli)	0.5 (1/120)	2.1 (1/48)
sCC (sklifu)	Extrametrical /s/ (klifu)	5.0 (3/60)	4.2 (1/24)
	Sonorant (skifu)	10 (6/60)	37.5 (9/24)
	Obstruent (slifu)	1.7 (1/60)	4.2 (1/24)

*All children produced the sounds in singleton onsets (e.g., sapi, ʃaku, pilu, etc.).

(A) Frequency:
- More cluster reductions by eL2 children, in particular in sC- and sCC-clusters

(B) Locality:
- Preference for omission of the sonorant in CC- and sCC-Clusters
- Preference for omission of the extrametrical /s/ in sC- Clusters

⇨ *eL2 learners resemble MON in reduction patterns of LI and LD items*

Summary and conclusion

Although MON and eL2 children did not significantly differ the repetition accuracy of LI and LD nonwords, the eL2 learners produced notably more incorrect repetitions and more errors if nonwords contain language-specific properties. Consistent with our expectation, eL2 learners resemble MON children in the reduction patterns of onset clusters. The results of this study provide further evidence that eL2 learners lag behind age-matched MON children in their phonological abilities. Looking at the error patterns, the results support accounts arguing that the acquisition path of consonant clusters is constrained by universal principles. As the sample size is very limited, more research is necessary to validate the findings.

References:
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