

Morphological encoding in bilingual children: Evidence from behavioural measures and ERPs

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Traditional wisdom has it that bilingual children's language acquisition is delayed relative to milestones of monolingual development. For vocabulary development, this has been shown to be incorrect, if a bilingual's combined vocabulary size is considered (1). But what about bilingual children's morphological skills?

We addressed this question by examining processes involved in producing regular and irregular past tense and participle forms in English and German using a silent-production-plus-delayed-vocalization ERP paradigm ([2], [3]). We tested 171 children (age range: 7-13), 79 early bilinguals plus 92 monolingual L1 controls (L1 English: 37; L1 German: 55).

Behavioural responses: Accuracy rates were higher for monolingual than for bilingual children in both languages. Particularly in forming irregular forms the bilingual children scored worse than the monolinguals. The proportion of overgeneralizations is also twice as high in the bilinguals than in the monolinguals.

ERPs: We found a significantly more negative-going waveform for regular (relative to irregular) verb forms from 300-550ms after silent-production-cue-onset for 11-to-13-year olds (English/German, mono-/bilinguals). This negativity was also found for the younger English bilinguals (7-10y), but not for the English monolinguals. For the younger German children (mono/bilingual) the negativity had a delayed onset (~800ms).

These results show that processes of morphological encoding (as measured by ERPs) are largely parallel for bilingual and monolingual children in both English and German. On the other hand, producing irregular verb forms is more error-prone in each of in the bilinguals, which we attribute to their reduced exposure to each of the two languages (relative to monolingual children).

[1] Patterson, (2004). J. Speech, Language, and Hearing Research 47.

[2] Budd, Paulmann, Barry, & Clahsen (2013). Brain&Language 127(3)

[3] Jessen, Fleischhauer, & Clahsen (2017). J Child Lang 44

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