How the word length effect develops with age: comparing English and Italian

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INTRODUCTION: In the word length effect, more time is needed at the onset of pronunciation to read longer words. The length effect is believed to be perceptual rather than linguistic (1), and is interpreted as the signature of a reading strategy based on letter by letter decoding. Reading development in regular (transparent) languages is characterized by a reduction in the word length effect as a function of age (2). However, little is known about the development of the word length effect in readers of English, an opaque language (with highly irregular rules for pronunciation). Due to its many irregular words, mastering English may require greater lexical activation. We wondered whether children reading English show a word length effect.

METHODS: Two groups of third-grade (n=8) and fifth-grade (n=8) readers were selected using the WIAT-II test. All participants had normal reading comprehension and pseudo-word decoding abilities, and had normal or corrected to normal visual acuity. We measured the effect of word length (4 to 7 letters) on word naming latency. Word lists were balanced for initial phoneme, frequency, imageability, and morphological complexity. We compare English readers to Italian readers (2,3) tested under similar, though not identical, conditions.

RESULTS: We found that the word length effect for English readers is present for both third and fifth graders (60 ms and 28 ms per letter, respectively). The effect declines with age, and the interaction is statistically significant (p< 0.05). Our results for English readers are similar to previously reported results for Italian readers. Thus, alphabetic decoding, as assessed by the word length effect, plays a similar role in childhood reading of transparent and opaque languages.

CONCLUSIONS: Contrary to the conjecture that childhood English reading is dominated by lexical activation, our results show a marked word length effect of similar size to that found in transparent languages. The effect halves from 3rd to 5th grade. Though the English and Italian languages have very different rules of pronunciation, the word length effect is remarkably similar, suggesting that children read English like Italian: letter by letter.

REFERENCES: