An extensive literature on expertise indicates that practice approaches perfection over the long haul. Speaking is a nearly universal form of expertise, but it is also a domain where specific difficulties are endemic. Some difficulties arise due to inexperience with particular content but others persist despite experience or are exacerbated by experience. Most relevantly, difficulties at the phonological level in word production, associated with frequency or speed of processing, make the interplay of previous and new experience potentially very revealing. With this motivation, we employed a tongue-twister–like word-pair repetition task to illuminate processes of word production as a function of lifetime experience (word frequency), experimental experience (multiple repetitions of each pair in two sessions separated by several days), and word structure (mono- or disyllable). Experience should lead to globally better performance but may also exacerbate actual or incipient errors as a result of phonological competition (O’Séaghdha & Marin, 2000) in related conditions relative to unrelated controls. We assessed performance globally (number of correct pair repetitions, number and types of errors) and locally (durations of correct productions, placement of errors) to provide a comprehensive assessment of changes in performance.

For monosyllables, frequency facilitated and relatedness (e.g., web–well) inhibited production in Session 1 by both local and global measures. Duration measures showed diminished sensitivity in the second session. Main effects in global measures were also reduced, but continuing effects of frequency and relatedness were shown in an interaction (fewer correct productions of related pairs in high frequency than low frequency conditions relative to controls). For disyllables (e.g., margin–marble), where relatedness comprised the first syllable, effects of frequency and relatedness on durations were small in Session 1, but emerged clearly in conjunction with an overall speed increase in Session 2. Frequency and Relatedness effects were also present in global measures, but did not interact. We will address the partial divergence of findings between monosyllables and disyllables while stressing an underlying commonality of processes. Core processes of word production, in particular segment to frame association, appear to be engaged in an invariant manner across sessions and in multiple consecutive word–pair productions within sessions. This is due to a tradeoff between effects of lifetime experience and immediate experimental experience. When it comes to speaking, practice makes imperfect because, whereas experience naturally facilitates performance, the concomitant speed induces phonological errors.

References