

Transfer and acquisition in L2 phonology: The perception of hiatus in Spanish

In Spanish, lexical items that contain sequences of two adjacent vocoids (camión, tienda) are diphthongized if the first vocoid is high and not identical to the second, as in the examples cited above, which are generally accepted as having 2 syllables. However, a set of exceptions to this rule exists in Peninsular Spanish, where some forms are realized with the vocoids in hiatus, as in 'cliente' and 'rioja', which are more likely to be realized with 3, rather than 2, syllables each. Just why some forms are realized exceptionally with hiatus while others are not has not been fully investigated, though Hualde (2005) indicates that factors that contribute to the exceptionality include whether the sequence is the first vocoid sequence in the word, presence of a morphological boundary between the two vocoids, and the quality of the second vocoid. In recent work, Scarpace and Kilpatrick 2009 show that this exceptionality is not limited to Peninsular Spanish, as experimental investigation with bilingual Spanish~English speakers from Southern California indicates that these speakers are also sensitive to cases of exceptional hiatus. In addition, this work at least partially confirms Hualde's generalization, showing that perception of the vocoid sequence as a diphthong or two full vowels is predictable based on complexity of the syllable margins (simple vs. complex onset, presence vs. absence of coda) and quality of the second vocoid (a, e, o, u), with forms with [e] being most likely and forms with [a] least likely to be perceived as a diphthong.

For L2 speakers of Spanish whose L1 is English, the perception of hiatus vs diphthongs is complicated by phonotactic rules of English that potentially interfere with L2 perception. In English, sequences of glide~vowel following a consonant are only legal if the vowel is [u], as in 'fume' ([fjum]) and 'cube' ([kjub]). Therefore, the phonotactic rules of English would lead L1 English~L2 Spanish speakers to perceive adjacent vocoids to be in hiatus except when the second vocoid is [u]. This is evidenced in production by L1 English~L2 Spanish speakers, who often produce forms with vowels other than [u], such as 'tienda', with vowels in hiatus ([ti.en.da]) rather than with a diphthong ([tjen.da]). As recent work indicates that the L1 phonotactic system may interfere in L2 perception (Altenberg 2005, Weber and Cutler 2006), the presence of phonotactic rules in English disallowing diphthongs with vowels other than [u] may interfere with the perception of diphthongs in Spanish.

Here, we present experimental evidence that indicates that native English speakers who are second language speakers of Spanish do acquire some knowledge of hiatus in Spanish, but that transfer of phonotactic knowledge from the L1 still appears to occur. L2 learners were presented auditorily with real and nonce forms that varied in vocoid sequence (ia, ie, io, iu), and were asked to judge the number of syllables in each word. Results showed that the L2 speakers judged forms with [e] to be monosyllabic (having a diphthong) significantly more often than forms with [a] and [o], just as the bilingual speakers of Spanish did. Thus the L2 Spanish speakers seem to be acquiring the same phonotactic restrictions exhibited by the native speakers. However, forms with [u] were judged to be monosyllabic (to have a diphthong) significantly more often than forms with other vowels, indicating that the L2 learners perceived a diphthong more often in environments where both the L1 and the L2 allowed diphthongs, and less often where the L1 disallowed them. Thus, the phonotactic grammar of the L2 speakers appears to be influenced by the phonotactics of both the L1 and the L2.