The time-course of verbal morphology anticipation: When interpreting experience makes a difference

Cristina Lozano-Argüelles, Nuria Sagarra & Joseph Casillas
Rutgers University

There is a growing body of literature that recognizes the importance of anticipatory processes. Several prosodic cues are linked to prediction: Japanese intonation [1], Swedish tones [2] and English vowel duration [3]. Stress is phonologically contrastive in Spanish and English, but differently used for lexical disambiguation in each language [4, 5]. Explicit training of anticipation is related to better L2 predictive strategies [6]. However, we still don’t know whether intensive experience with complex processing mechanisms (such as interpreting) could help with linguistic anticipatory processes. This study evaluates whether Spanish lexical stress can be used to predict verbal morphology in a second language (L2), and whether experience with interpreting improves L2 anticipatory processes.

Participants were: 25 Spanish monolinguals, 26 late L2 learners and 12 late L2 learners-interpreters. They completed a background-questionnaire, a proficiency test, an oral eye-tracking task, and a working memory (WM) test. The eye-tracking task contained 66 sentences (18 practice, 32 fillers, and 16 experimental). The target words had two conditions: paroxytone (stressed first syllable, FIRma, “s/he signs”), and oxytone (unstressed first syllable, firMÓ, “s/he signed”) (El director firma/firmó la factura, “The director signs/signed the bill”). During the eye-tracking task, participants listened to a sentence while looking at two words and selected the word contained on the audio by pressing a button.

Participants were homogenous in L2 proficiency and WM. T-tests revealed that at the first syllable offset only monolinguals and interpreters were able to predict the ending (-a for present, -o for past). A GLMM showed that monolinguals and interpreters fixate on the target significantly more than the non-interpreter bilinguals. A Growth Curve Analysis indicated that monolinguals anticipate earlier, but interpreters do it at a faster rate. Results indicate that interpreting experience facilitates anticipatory processing in an L2, and that this ability can be learned after puberty.
Figure 1. Eye-tracking task: Subjects saw a fixation cross for 250 ms, then got familiarized with the words for 1,000 ms, and then listened to the sentence.

Figure 2. T-test of the fixations at the offset of the target syllable, indicating whether participants can anticipate against chance (50%) (Bonferroni corrected alpha = 0.0008).

References