Anticipation in Professional Interpreters:
Predicting Morphology

Cristina Lozano-Argüelles, Nuria Sagarra & Joseph Casillas
Department of Spanish and Portuguese, Rutgers University, New Brunswick, NJ

Abstract

Adults anticipate linguistic information effortlessly in their native language (L1) (Huettig, 2015), but have difficulty making predictions in a non-native language (L2) learned after puberty (Kaan, 2014). This applies to syntactic, morphological, semantic and phonetic cues. Specifically, prosodic cues such as tone, vowel duration, and intonation have been linked to prediction of morphological and syntactic information in monolinguals (Nakamura, Arai, & Mazuka, 2012; Söderström, Horne, & Roll, 2015), and some (Schremm, Söderström, Horne, & Roll, 2016), but not all L2 learners (Gosselke Berthelsen et al., 2018; Rehrigh, 2017). Importantly, explicit training of prosodic cues absent in the L1 facilitates L2 anticipation of such cues (Schremm, Hed, Horne, & Roll, 2017). We investigate whether implicit training via extensive experience anticipating linguistic information through simultaneous interpreting can extend to non-interpreting situations. Simultaneous interpreters need to anticipate upcoming information to cope with the cognitively demanding task of understanding and translating utterances concurrently during time pressure (Seeber & Kerzel, 2011). And they are superior to non-interpreters in semantic / lexical access, reading speed / comprehension, working memory (Bajo, Padilla, & Padilla, 2000), updating skills (Morales, Padilla, Gomez-Ariza, & Bajo, 2015), short-term memory (Babcock, Capizzi, Arbula, & Vallesi, 2017), dual-task processing (Strobach, Becker, Schubert, & Kuhn, 2015), and cognitive flexibility (Yudes, Macizo, & Bajo, 2011).

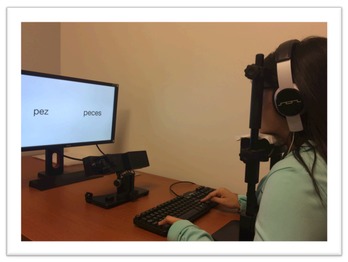
We focus on Spanish lexical stress cues to anticipate verbal suffixes in interpreter/non-interpreter English learners of Spanish, because lexical stress functions differently in English and Spanish (e.g., Cooper, Cutler, & Wales, 2002; Soto-faraco, Sebastián-Gallés, & Cutler, 2001).

Goal

Can adult L2 learners use suprasegmenal cues (lexical stress) to anticipate morphological information (verbal suffixes) native-like during lexical access? If yes, are simultaneous interpreters better than non-interpreters and making these predictions?

Participants

25 Spanish monolinguals
38 Adult advanced English learners of Spanish:
- 26 non-interpreters
- 12 professional simultaneous interpreters



Methods and procedure

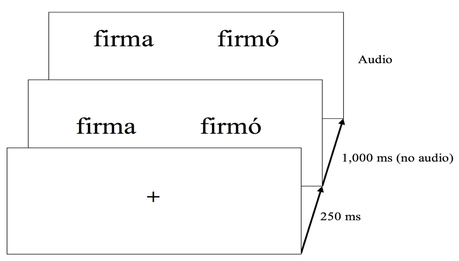
TESTS

Participants completed 7 tests individually in 1hr 20min: language history questionnaire, Spanish proficiency test, eye-tracking task, production task, gating task, working memory test, and a phonological short-term memory test. We focus on the eye-tracking results.

EYE-TRACKING TASK

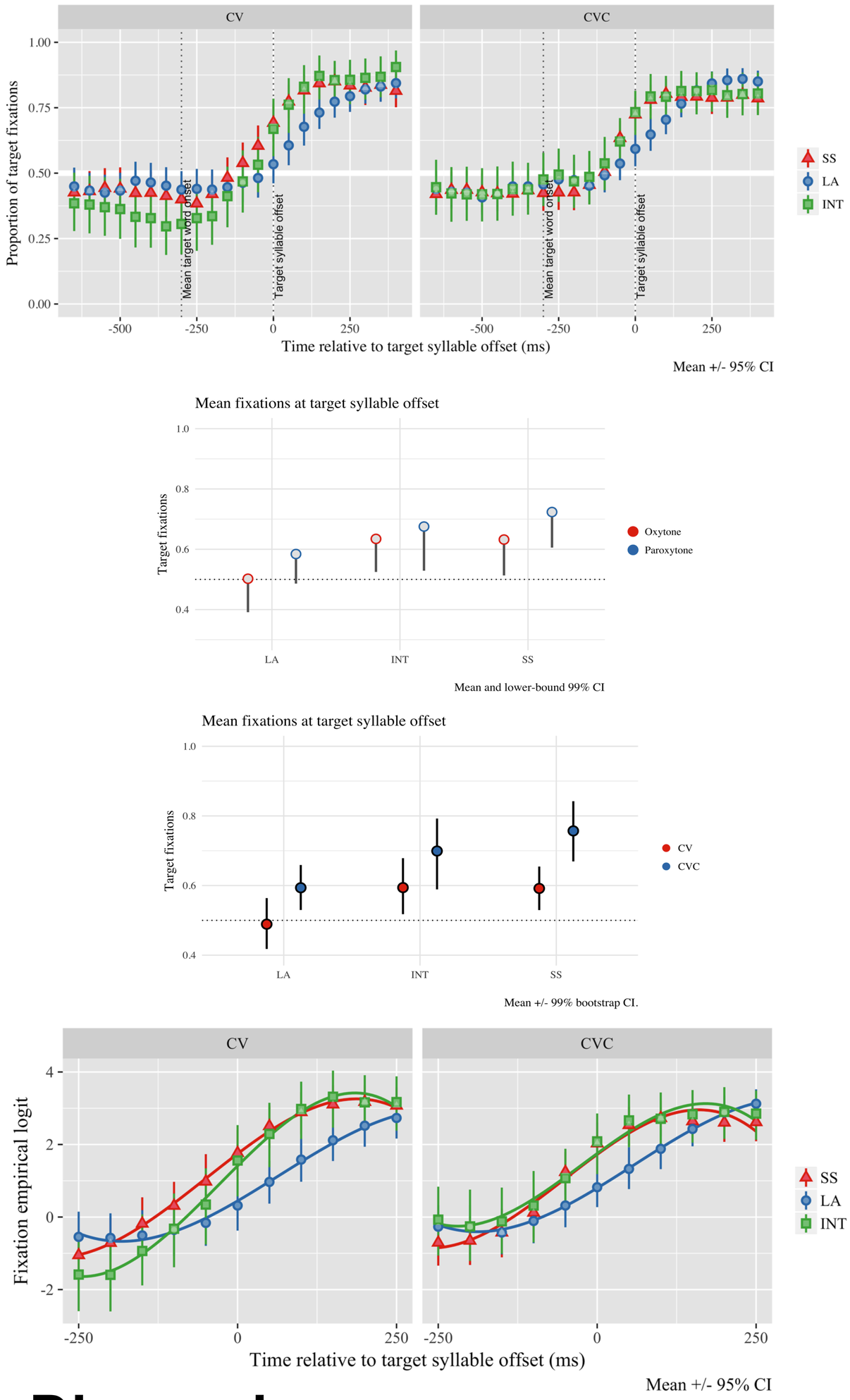
EyeLink 1000 plus eye-tracker (SR Research), sampling rate of 1k Hz, spatial resolution of .32 º horizontal and .25º vertical with an average calibration error of .01 º.

Participants saw a fixation sign for 250ms, read two words on the screen for 1,000ms, and then listened to a sentence while they continue looking at the words. There were 66 sentences: 18 practice, 16 experimental (stress), and 32 fillers.



	CONDITION 1 1st syllable stressed Present tense	CONDITION 2 1st syllable unstressed Past tense
CV	LAva "(s)he washes"	LaVÓ "(s)he washed"
CVC	FIRma "(s)he signs"	firMÓ "(s)he signed"

Stress results



Discussion

Results indicate that only monolinguals and interpreters are able to use stress to predict verb endings when less phonological information is present (CV condition). However, when more time and phonological information (CVC condition) are available, the advanced non-interpreter bilinguals successfully anticipated verb endings. Importantly, practice of interpreting results in more efficient language processing, indicating that anticipatory processes in a second language are trainable.

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