

Background

- Work on filler particles (FPs) in languages other than English is still rare
- English (En) seems to prefer vocalic-nasal FPs (*um*), Spanish (Sp) prefers vocalic FPs (*uh*) [1, 2]
- Vowel qualities in En and Sp seem to differ (open-mid central/back vowel vs. close-mid front vowel) [2, 3]
- Literature reports higher disfluency rates in second language (L2), but this decreases with increasing proficiency [4, 5]



Do vowel qualities and the frequency distribution of FPs differ across languages?
Is the FP pattern consistent in the L2?

Data

- 20 female speakers (10 native Standard Scottish English, 10 native Spanish/Basque speakers) of Diapix-FL corpus [6]
- Cooperative spot-the-difference task (Diapix) in L1 and L2
- Proficient L2 speakers in Spanish/English (B2-C1) [7]
- Annotation of corner vowels + 1 additional vowel in L1-speech (/i u a e/ for Spanish and /i u a ʌ/ for English), 10 tokens for each vowel
- 2,737 FPs were found: 245 nasal FPs (*hm*), 1,118 vocalic FPs (*uh*) and 1,374 vocalic-nasal FPs (*um*)
- Formant (F1, F2) measurements at midpoint of vocalic FP *uh*

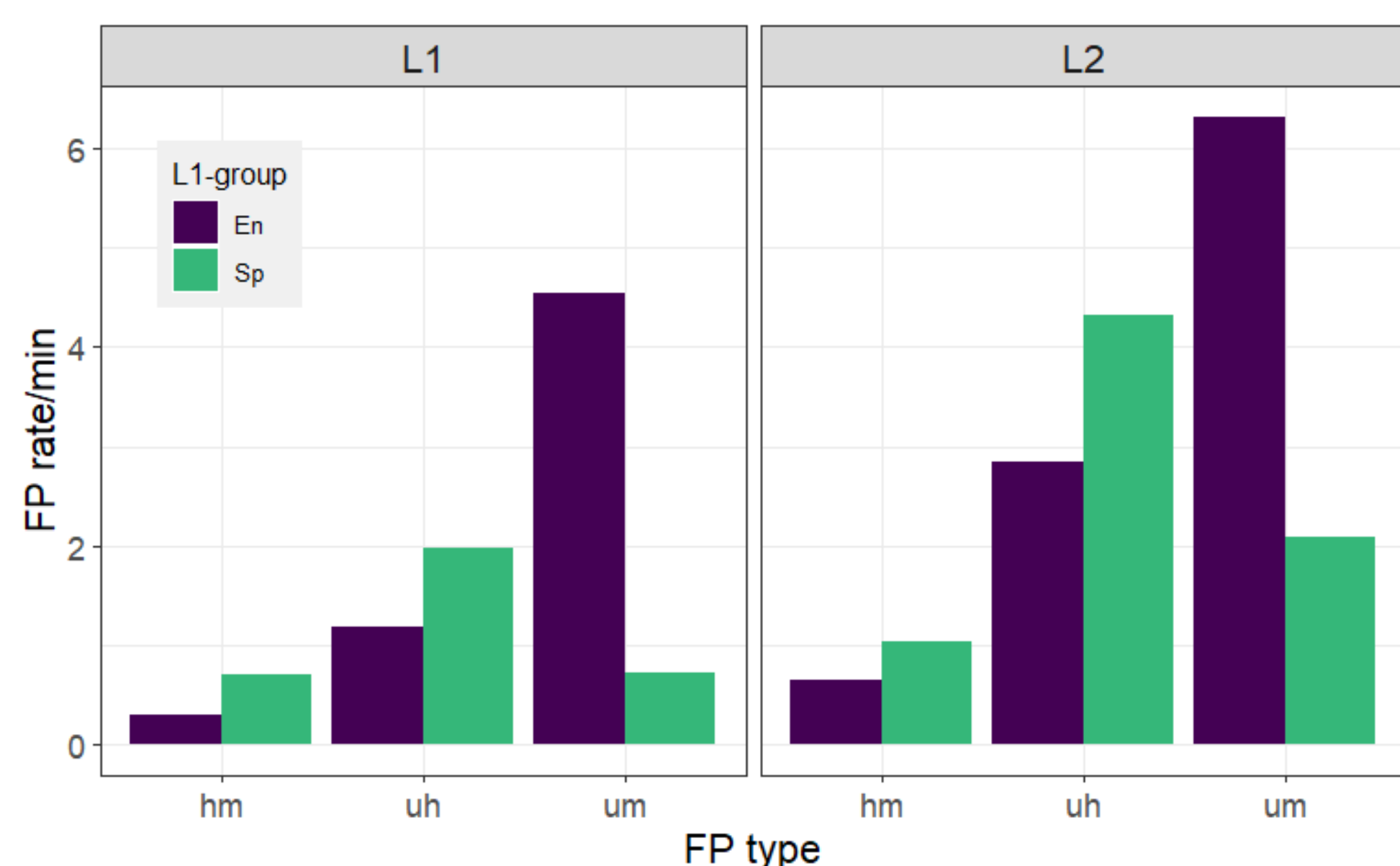


Fig. 1: Frequency count of FPs per language split by L1 and L2 speech. Native En-speakers prefer the vocalic-nasal FP, while native Sp-speakers prefer the vocalic FP. All FPs are more frequent in the L2.

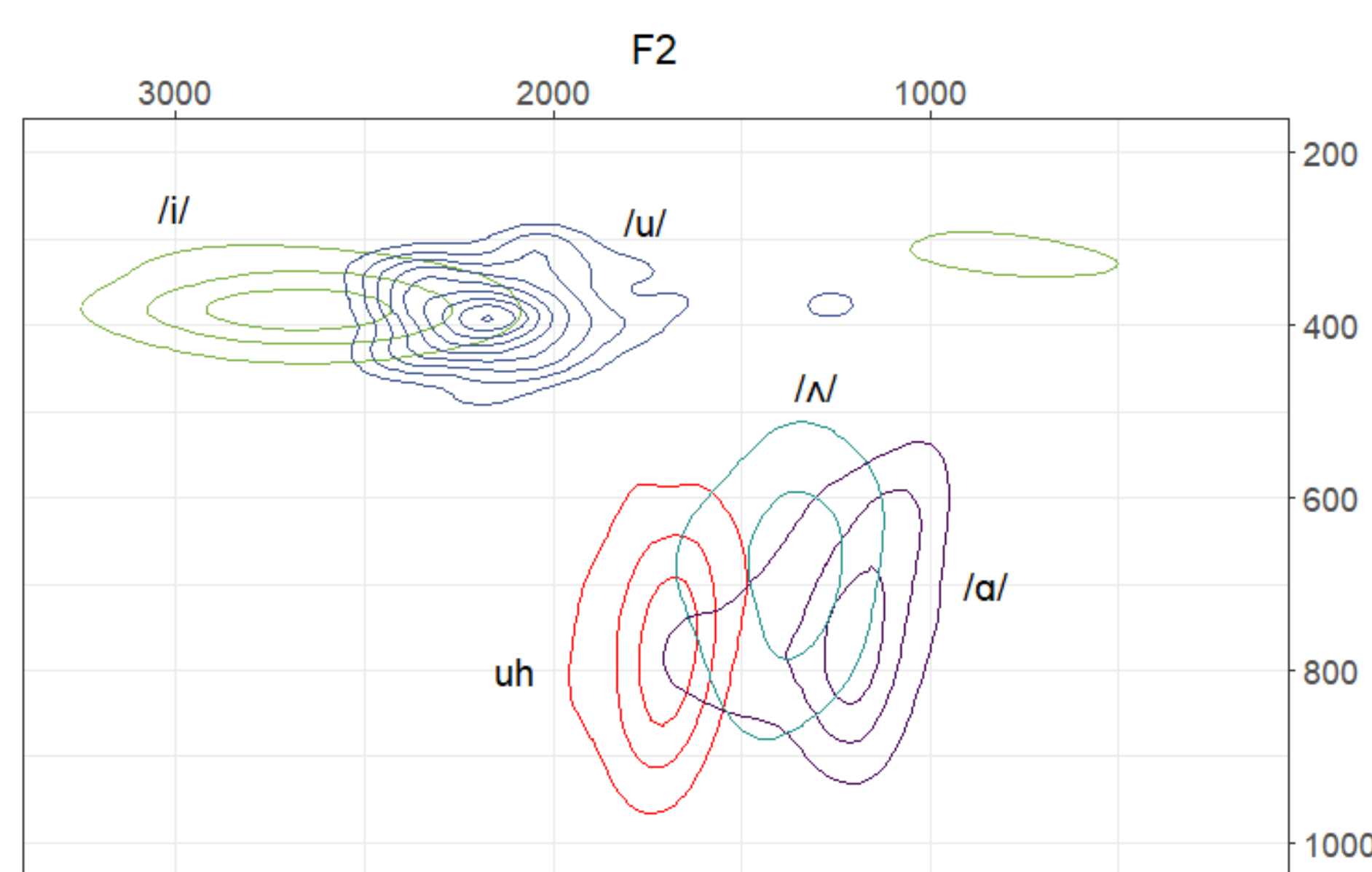


Fig. 2: Vowel quality of vocalic FPs in L1-English compared to native English corner vowels. The overlap with the closest lexical vowels was calculated using a Pillai-score (0 = complete overlap): /ʌ/ = 0.27, /a/ = Pillai: 0.46.

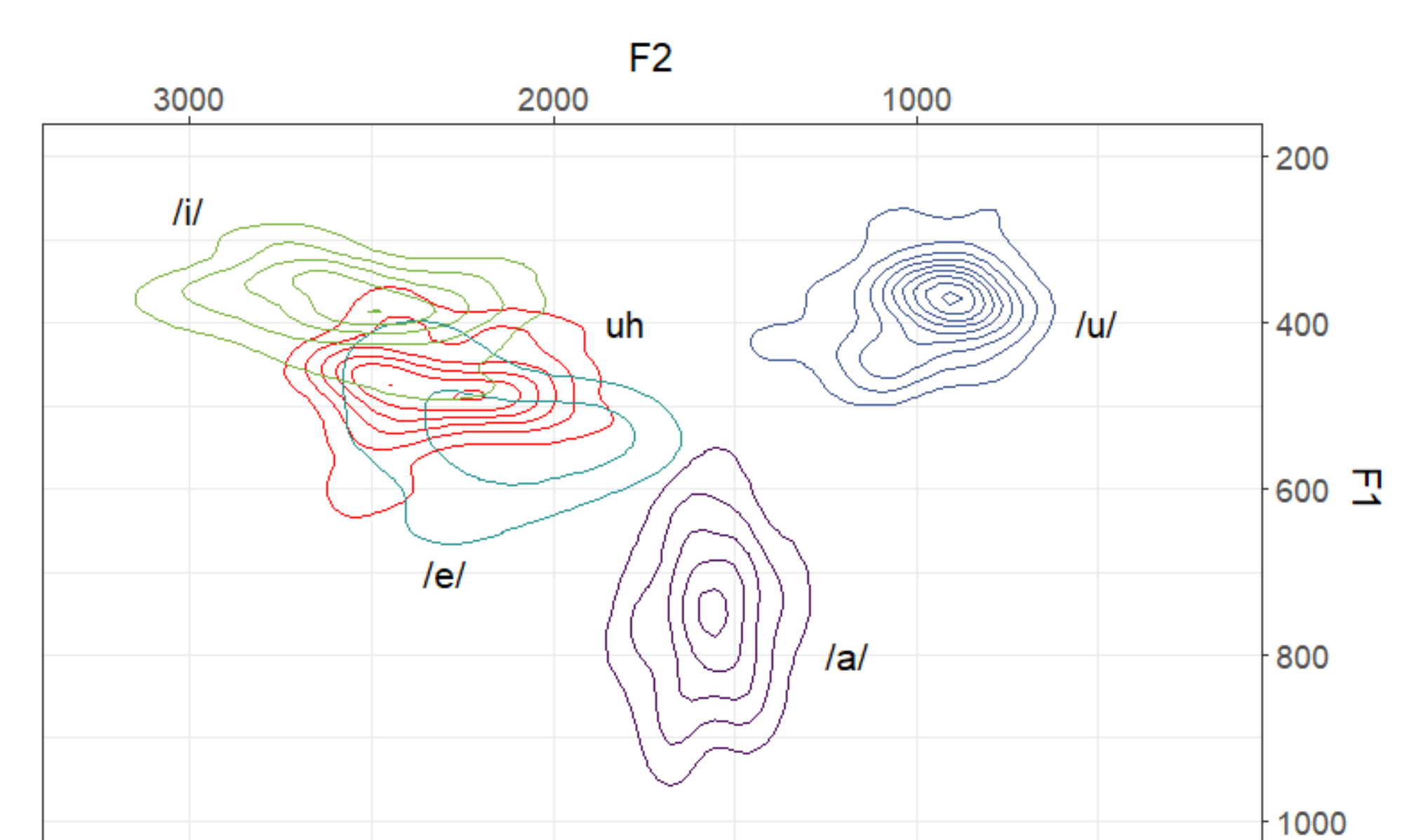


Fig. 3: Vowel quality of vocalic FPs in L1-Spanish compared to native Spanish corner vowels. The overlap with the closest lexical vowels was calculated using a Pillai-score (0 = complete overlap): /e/ = 0.22, /i/ = 0.34.

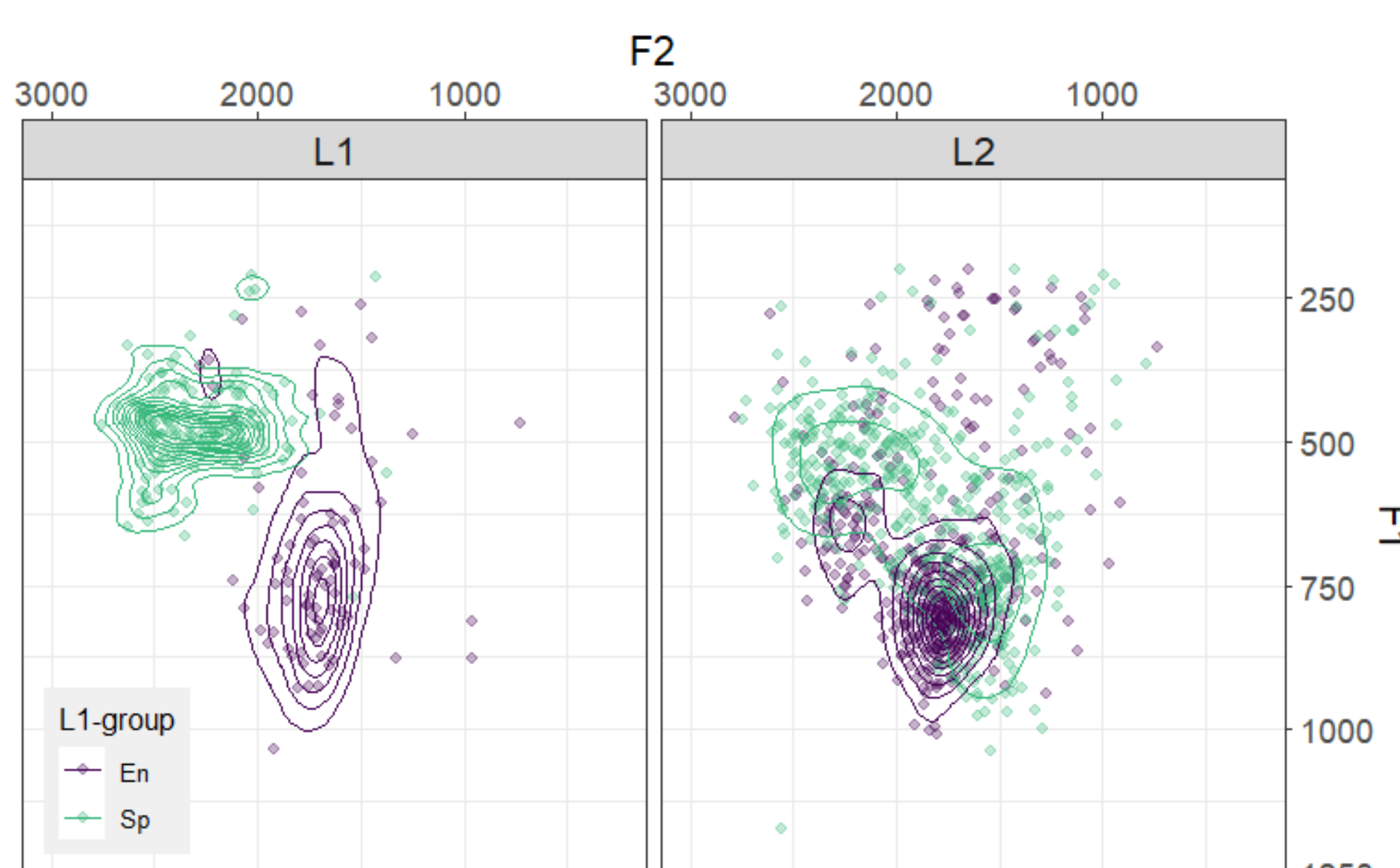


Fig. 4: Vowel quality of vocalic FPs by native En-speakers and native Sp-speakers in their L1 and L2. Vowel spaces for L1 FPs are clearly separated, but merge when speakers switch to their L2. Speakers seem to attempt to produce vowel qualities similar to the target language.

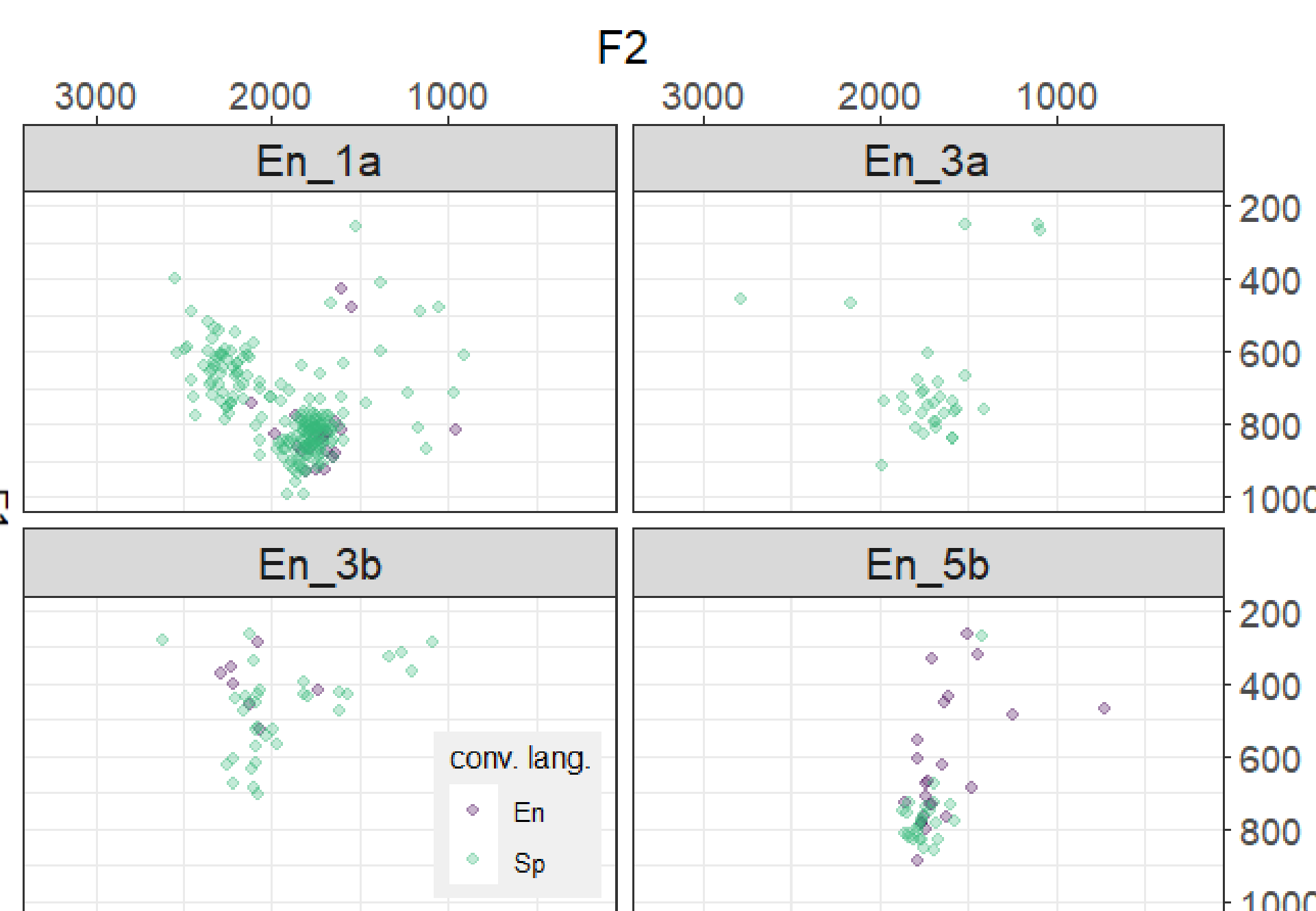


Fig. 5: Vowel quality of vocalic FPs by four native En-speakers in their L1 and their L2. Speakers 1a and 3b show a lot of variation in their L2 FPs moving towards the target, 3a and 5b use a low central vowel.

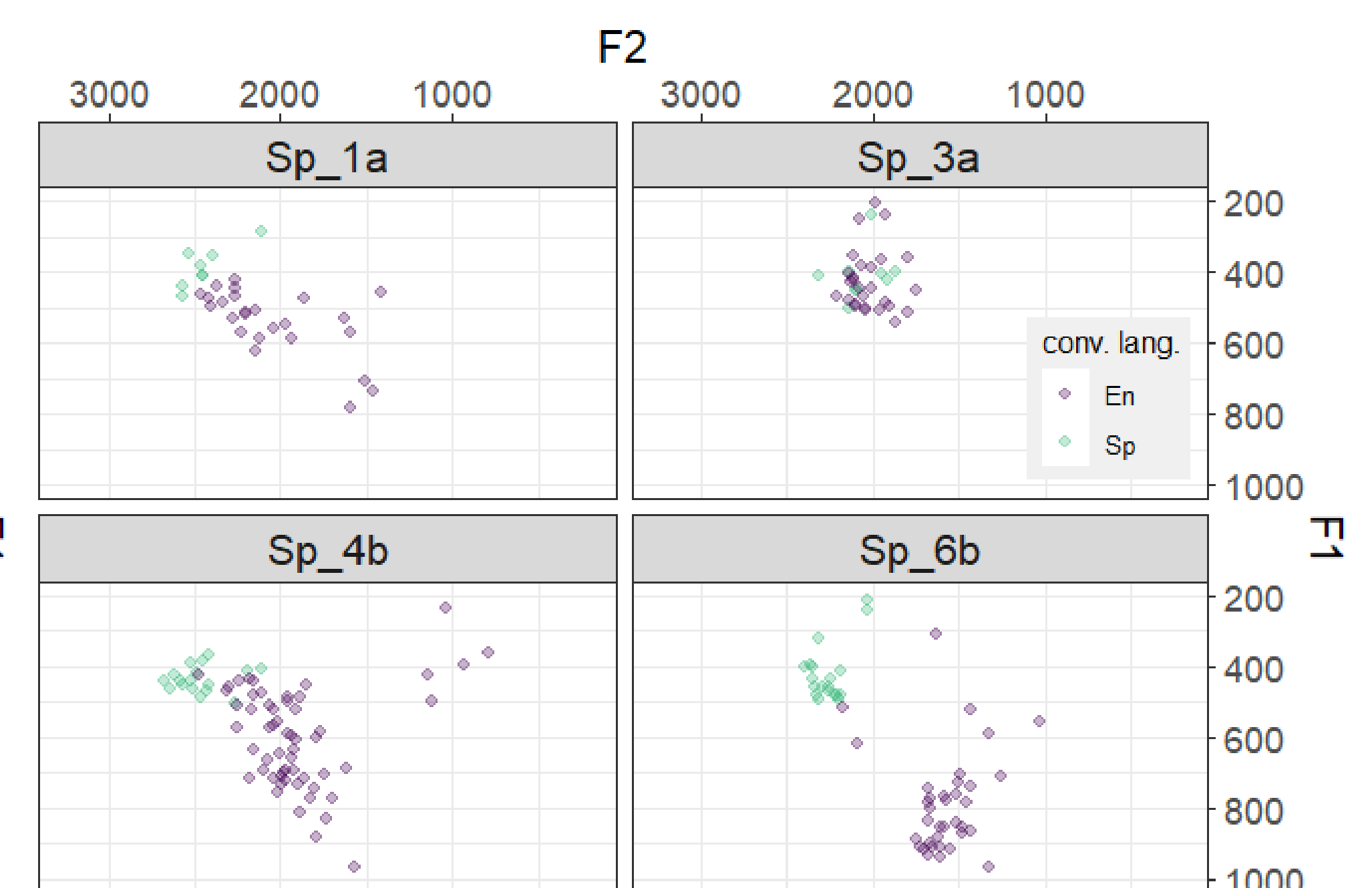


Fig. 6: Vowel quality of vocalic FPs by four native Sp-speakers in their L1 and their L2. Speakers 1a and 4b move towards En FPs, 3a shows the same vowel in both languages, 6b shows clear separation.

Summary

- L1-En speakers prefer vocalic-nasal FPs, L1-Sp speakers prefer vocalic FPs which may be due to phonotactic constraints: Spanish does not allow /m/ in the coda of the final syllable [8]
- FP-preference remains the same in L2 [9]
- L1-Sp speakers use less FPs in their L1 than En-speakers which may be due to a high use of lengthenings (see Italian [10])
- L1-En FPs show an open central vowel, L1-Sp FPs show a close-mid front vowel (confirming [2])
- L2-FP vowel moves toward L1 vowel quality
- Speakers show individual differences when producing the FP-vowels in their L2

References

- [1] de Leeuw (2007). Hesitation markers in English, German, and Dutch. *Journal of Germanic Linguistics*, vol. 19, no. 2, pp. 85–114, 2007. [2] Erker & Bruso (2017). Uh, bueno, em...: Filled pauses as a site of contact-induced change in Boston Spanish. *Language Variation and Change* 29(2), 205–244. [3] Shriberg (1994). Preliminaries to a theory of speech disfluencies. Ph.D. dissertation. [4] Brand & Götz (2011). Fluency versus accuracy in advanced spoken learner language. *Int. Journal of Corpus Linguistics* 16(2), pp. 255–275. [5] Riazantseva (2001). Second language proficiency and pausing: A study of Russian speakers of English. *Studies in SLA* 23(4), pp. 497–526. [6] Cooke et al. (2013) DiapixFL. LISTA Consortium: (i) Language and Speech Lab, Universidad del País Vasco, Spain and Ikerbasque, Spain; (ii) CSTR, University of Edinburgh, UK; (iii) KTH Royal Institute of Technology, Sweden; (iv) Institute of Computer Science, FORT. [7] Council of Europe (2011). Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR). Strasbourg: Cambridge UP. [8] Gabriel (2022). “Phonetik und Phonologie des Spanischen” in *Linguistik im Sprachvergleich: Germanistik, Romanistik, Anglistik*. Berlin: J.B. Metzler, pp. 27–48. [9] Cenoz (2000). Pauses and hesitation phenomena in second language production. *Int. J. of Applied Linguistics*, vol. 127-128, pp. 53–69. [10] Cataldo et al. (2020). Phonetic and functional features of pauses, and concurrent gestures, in tourist guides’ speech. *Audio Archives at the Crossroads of Speech Sciences, Digital Humanities and Digital Heritage*, pp. 205–231.

