

The (non-)representation of English /h/ by francophones

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Previous work examining francophone performance with respect to English /h/ in both perception (LaCharité & Prévost 1999) and production (Janda & Auger 1992; John 2006) reveals that this segment presents a particularly serious challenge in L2 phonological acquisition. In perception, francophones are observed to be significantly worse than native English speakers in detecting the presence or absence of [h] in an AX discrimination task. In production, a pattern of inconsistent suppliance is observed: francophones both omit [h] from *h*-initial words, and epenthesize it onto vowel-initial words. While these findings all suggest that the problem is a matter of the representation of this segment in the interlanguage grammar, it is unclear what the precise nature of the problem could be. More generally, in cases where L2 learners are shown to be unable to distinguish between L2 segments, the analysis given is that the learners are unable to construct distinct representations in the interlanguage grammar, and thus make use of a single representation for both segments, resulting in a failure to distinguish between them both perceptually and in production (e.g., Flege 1995, Brown 2000). This analysis, however, cannot be applied to francophone learners of English, who appear to be collapsing /h/ into a single category with silence. It is not clear what sort of representation would allow for this sort of perceptual categorization. Furthermore, the non-target-like suppliance of [h] suggests that some representation for this segment must be available to the interlanguage grammar, though it is not target-like.

This paper presents evidence from an elicited production task and an event-related potential (ERP) study that support the hypothesis that a phonological representation for /h/ is entirely absent from the lexical entries constructed by francophones in their English interlanguage grammars. In a sentence reading task, francophones were observed to omit [h] from target words despite the presence of an orthographic cue in the stimulus items; in a sentence comprehension task designed to elicit the N400 (Kutas & Hillyard 1980), we found that while native English speakers show a significant N400 component when presented with an infelicitous *h*-initial or vowel-initial word with an auditory mode of presentation, francophones do not. With a visual modality, however, the N400 is elicited in both groups. These results suggest that no segmental representation for /h/ exists in the phonological representations of lexical entries constructed by francophones: *h*-initial words and vowel-initial words are phonologically identical. In perception, this leads to their difficulty in distinguishing *h*-initial and vowel-initial words. Further examination of the tokens of [h] produced by francophones in the elicited production task allow us to develop an account for the non-target-like suppliance of [h]: the presence of formant structure on [h] in the input leads francophones to a misanalysis of this segment as instances of partially devoiced vowels, which would be phonetically available to learners, but phonologically unavailable for representations. This results in uncertainty with respect to which words require them and which words do not, thus leading to the observed inconsistencies in production.

References

- Brown, C. 2000. The interrelation between speech perception and phonological acquisition from infant to adult. In J. Archibald (ed.). *Second Language Acquisition and Linguistic Theory*. Malden: Blackwell.
- Flege, J. E. 1995. Second-language speech learning: theory, findings, and problems. In W. Strange (ed.). *Speech Perception and Linguistic Experience: Issues in Cross-Language Research*, pp. 229 – 273. Timonium: York Press.
- Janda, R.D., & J. Auger. 1992. Quantitative evidence, qualitative hypercorrection, sociolinguistic variables – and French speakers' 'eadhaches with English h/Ø. *Language and Communication* 12 (3/4): 195 – 236.
- John, P. 2006. Variable h-epenthesis in the interlanguage of francophone ESL learners. MA thesis, Concordia University.
- LaCharité, D., & P. Prévost. 1999. The role of L1 and teaching in the acquisition of English sounds by francophones. In A. Greenhill, H. Littlefield, & C. Tano (eds.). *Proceedings of BUCLD 23*, pp. 373 – 385. Somerville: Cascadia.
- Kutas, M., & S.A. Hillyard. 1980. Reading senseless sentences: brain potentials reflect semantic incongruity. *Science* 207: 203 – 208.