

The influence of French-as-a-second language programs on learners' production of French oral vowels

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This study examines the potential role of French-as-a-second language (FSL) programs on the second language (L2) acquisition of French segmental structures. Specifically, we investigate whether students enrolled in Ontario French immersion and core French programs differ in their production of the French vowels /e, i, o, u/ to determine whether program-related factors influence the L2 speech of these learners.

French immersion and core French programs are the primary FSL programs in Canada and they are offered to all students in English-majority communities. While students in both programs acquire French in formal classroom contexts where students rarely use their L2 outside of class time (Genesee, 1978), the amount of French instruction and the subjects that are taught in French differ between programs (Canadian Parents for French, 2017). Notably, French immersion speakers have been shown to have a particular non-native French accent, distinct from that of core French speakers (Poljak, 2015). As the structures that distinguish the L2 speech of these groups remain virtually unexplored, the current study investigates the production of the French oral vowels /e,i,o,u/, which have previously shown to be difficult for advanced Anglophone learners of French (Walz, 1980). In order to gain a greater understanding of learners' L2 vowel production, we also examine individuals' production of the corresponding L1 vowels. This allows for a comprehensive analysis of the L2 vowel inventory to determine whether speakers' experience an overall shift in the size and dispersion of their vowel space (Bradlow, 1995).

This study has two primary research questions: (1) Are there measurable differences in the production of the French vowels /e, i, o, u/ between French immersion and core French learners? and (2) If so, how do such differences relate to learners' production of the corresponding English vowels? In order to investigate these questions, we examined the vowel production of 58 Grade 12 French immersion (n = 28) and core French (n = 30) high school students with similar levels of overall L2 proficiency. French and English carrier sentence reading tasks were used to elicit the four French vowels in stressed and unstressed positions and the corresponding English vowels in monosyllabic words. Following the methods outlined in previous acoustic analyses (Romanelli et al., 2018; Storme 2017), we measured the duration of each vowel and its formant values (F1, F2) at the midpoint to analyze the vowel quality. Measurements were normalized using the Labov method for duration and the vowel normalization software NORM for formant values (Thomas & Kendall, 2007). Lastly, following methods in Marinescu (2012), participants' L1-L2 vowel inventories were plotted for visual evaluation using mean F1 and F2 values.

Preliminary results from the vowel analyses of twenty speakers indicate that core French learners' vowel production is more native-like than that of French immersion speakers. Furthermore, their L1-L2 vowel inventories seem to be more distinct than those of French immersion speakers, whose vowel production does not differ significantly between languages. Further phonetic analyses and multilevel modeling will determine whether there are significant between-group differences with respect to both the production of the French vowels and the participants' L1-L2 vowel inventories.

This is the first study to characterize phonetic differences in the L2 speech of French classroom learners. These findings could lead to further investigation into differences between L2 learner groups and factors that contribute to differential acquisition between them. Future work could highlight the influence of FSL program structure on the acquisition of French in the L2 classroom and serve to evaluate the structure of FSL programs in Canada.

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