Phonetic Convergence during Language Interactions between Spanish-English Bilinguals and English Monolinguals

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Purpose: The purpose of this study is to examine phonetic convergence, the way that speakers take on speech characteristics of those with whom they speak, during a social language interaction. Following Clark (1996), we are using an approach that views language as a joint action. Following Pardo (2006), we are using a brief social interaction to examine phonetic convergence between two speakers. We are building on this experiment by examining acoustic as well as qualitative variables, and by looking at language interactions between native and non-native speakers of English.

Methods: We are using a word-matching task to examine whether Spanish-English bilinguals converge toward English monolinguals on certain phonemes throughout the task. Our target stimuli are minimal pairs, words that only differ by one phoneme. Some of the target stimuli are distinctions which are not made in Spanish, such as the two vowels [i] and [ɪ], of which Spanish only has [i]. Some of the distinctions are simply made differently in Spanish than in English, such as the distinction between [t] and [d]. There are three parts of the task for each participant pair:

1. Naming task – initial recordings are taken as each participant individually reads the list of stimuli words that appear on their screen.
2. Matching task – the two participants are each at a separate computer. The same two words appear on both screens. One participant is the speaker, and reads the word that turns red on their screen. The other is the matcher, and touches on their screen whichever word they hear from the speaker. Each participant takes two turns as the speaker and two turns as the speaker, for a total of four trials.
3. Naming task – the task is repeated exactly like at the beginning.

We will perform both qualitative (perceptual accentedness) and quantitative (acoustic) analyses to examine how the speakers’ productions change over the course of the experiment.

Results: Our results are still inconclusive as we are in the very first steps of analysis. For my initial analysis, I predicted that Spanish-speakers will start out with very similar [i] and [ɪ] productions, and that these productions will gradually become more distinct over the course of the experiment in terms of the F2-F1 difference and the vowel length. According to my initial analysis, vowel length follows my prediction that Spanish-speakers will start to distinguish more between [i] and [ɪ] throughout the experiment, while F2-F1 difference does not follow my prediction.

Conclusions: Our next steps include further analysis of these and other variables, gathering data with more Spanish-English pairs, and expanding to other bilingual pairs such as Mandarin-English.