

The perceptual and production (re)training of allophones and phonemes in L2 Spanish – Wendy Herd

The dissertation investigates whether native English learners of Spanish can be trained to suppress intervocalic flapping when learning to spirantize intervocalic voiced alveolar stops and to produce phonemic taps and trills in Spanish. In addition, the dissertation will evaluate the effectiveness of perceptual training methods, production training methods, and combined perceptual and production training methods to find which modality of training proves to be the most effective. In addition to using pre- and post- perception and production tests to evaluate how the trainees improve in comparison to a pre- and post-tested control group and to a group of native Spanish speakers, the current study will also use pre- and post- cross-modal priming experiments and EEG mismatch negativity responses to determine if the trainees exhibit automatic psycholinguistic and neurolinguistic responses more similar to native speakers after training. A change in these psycholinguistic and neurolinguistic responses within the trainees would indicate that, with training, second language learners are able to build new phonemic and allophonic representations for the L2.

The intellectual merits of this study include that it will advance the knowledge of second language acquisition, particularly with respect to the second language learner's ability to acquire phonemic and allophonic contrasts in the L2. This study will also tease apart the effects of perceptual and production training. Past research has established that perceptual training alone improves both perception and production and that production training alone improves both as well, but the production training studies have not been limited to production as trainees have been able to listen to the training stimuli. This study will systematically control both training modalities so that they can be directly compared and will introduce a third training methodology including both perception and production to discover whether perceptual training, production training, or a combination of the two is most effective. Additionally, while past training studies have focused on the ability of L2 learners to acquire new phonemic contrasts, this study involves the training of a new phonemic contrast, the trill /r/, as well as the reanalysis of an allophonic variant in the L1 as a phoneme in the L2, the tap /ɾ/, and the reanalysis of a phoneme in the L1 as an allophonic variant in the L2, the interdental fricative /ð/.

This study will have broader impact, because it will involve the teaching and training of a second language and will involve the participation of native Spanish speakers as judges and speaking participants. The development of the Spanish stimuli and the use of brain imaging techniques will involve the cooperation between the doctoral student and researchers from other departments as well as the use of outside facilities, such as the Neurolinguistic and Language Processing Laboratory. The project will also result in benefits to second language acquisition and improvements in second language teaching.