



Title: Training a Good Ear Promotes Successful Second Language Speech Acquisition: Interfacing Neuroscience, Hearing, and Education Research Perspectives

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Abstract: The ability to accurately process auditory information is a cornerstone of language development. Individual differences in auditory perception ability have been linked to first language (L1) learning, language delay, and post-pubertal second language (L2) speech learning. Hearing research also suggests that this faculty is amenable to improvement through focused training. In the current investigation, we seek to test the hypothesis that auditory perception training not only improves adult learners' perceptual acuity, but also promotes L2 speech learning. To improve segmental and prosodic L2 speech proficiency, participants will individually engage in a form of L2 speech training with demonstrated effectiveness (i.e., high-variability phonetic training). A subset of participants will also receive focused auditory training that is designed to enhance sensitivity to formant, pitch, amplitude, and duration dimensions of synthesized sounds. To measure the impact of the training, participants' auditory processing abilities will be assessed via behavioural and neurophysiological methods and linked to various dimensions of their L2 speech proficiency over time. We predict that individuals who receive both auditory and speech training would make the most of input opportunities during speech instruction, leading to the largest and most robust gains in the long run.