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Computerized assessment and training of the perception of American English (AE) speech sounds by adult learners of English

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Fourteen volunteer students, with first languages other than English and enrolled in English pronunciation classes, used a specialized software program, the "Speech Perception Assessment and Training System (SPATS)." The software was made available in a language laboratory for seven weeks. Students used the program between 3 and 19 hours, the mean being 13 hours. The goal of SPATS is to train the perception of English words as they are produced in naturally spoken, fluent sentences. The average student correctly identified 1723 words in 313 different sentences as spoken by 10 different talkers and also attempted to identify a total of 7530 presentations of syllable onsets, nuclei, or codas as spoken by 8 different talkers in several phonetic contexts. These syllable constituents were presented in quiet, the sentences in moderate amounts of 12-talker babble. All showed significant progress in perception of AE speech sounds, a few approaching the levels of native speakers. By extrapolation, with 20 to 30 hours of program use nearly all might approach the perceptual performance of native speakers. Those that returned post-training questionnaires viewed the program favorably and recommended its use in regular classes. Speech samples were collected. Accent ratings and spectrographic analyses will be presented.