

ABSTRACT

THE INFLUENCE OF VISUAL STIMULATION ON THE ACQUISITION OF NONNATIVE PHONEMIC CONTRASTS

Recent research in the field of perceptual psycholinguistics has found strong evidence for the integration of auditory and visual information in the perception of speech. The implication of this crossmodal integration of sensory modalities is applicable to secondary language learning and the acquisition of nonnative phonemic contrasts. In the current study, exposure to different perceptual modalities (audio, visual, and audiovisual) was manipulated in a phonemic discrimination learning task. Participants were trained to discriminate between two pairs of phones: each pair consisted of one native and one within-category nonnative phone. The two pairs differed in whether or not the phones were visually distinct. The results were evaluated in terms of accuracy on a phonemic discrimination task performed before and after completion of the modality-specific learning task. Audiovisual gain was calculated as the advantage of audiovisual over auditory information in phonemic discrimination. The results show: (a) Audiovisual gain is greater for those pairs of phonemes that are visually distinct than for those that are visually indistinct. (b) Audiovisual presentation of stimuli results in greater learned audio discrimination between native and nonnative phonemes than audio or visual presentations. (c) Audiovisual gain for learning nonnative phonemic discrimination only applies to visually distinct phonemes. The results are discussed in terms of the role that visible speech information might play in the development of phonetic categories.

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May 2009