

Cross-Modality Strategy Transfer: A behavioral study of strategic discrimination skill acquisition and transfer across auditory and visual modalities

Hao Bai

Mississippi State University

Paul Ladny

Mississippi State University

J. Gregory Trafton

Naval Research Laboratory

Randy J. Brou

Navy Personnel Research, Studies, and Technology

Stephanie M. Doane

Mississippi State University

Abstract: Discrimination is the ability to differentiate one object from another. Previous research suggests that with practice, individuals develop efficient discrimination strategies, and that strategies acquired in training transfer within a modality to novel stimuli (e.g., Haider & Frensch, 1999; Sohn, Doane, & Garrison, 2006). This study examines whether discrimination strategies transfer across presentation modalities. Subjects were trained to make difficult (similar) or easy (dissimilar) discriminations among visual or auditory objects during training. At transfer, subjects made difficult discriminations among stimuli presented in a different modality. Results suggest that the strategy acquired by subjects trained on difficult discriminations leads to superior performance at transfer compared to subjects trained on easy discriminations regardless of the modality of initial training and the modality switch at transfer. Cross-modality transfer was observed, and this suggests the role of a central mechanism in the acquisition and transfer of strategic skills.