



## How to Promote Generalization of Novels Concepts?

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### Abstract

One major issue in education is generalization. In many learning situations, participants do not generalize beyond the situations in which they were trained or generalize to situations that are quite similar to the training phase. The purpose of the present contribution is to study conditions that would promote generalization in concept learning situations. When subjects are confronted with new stimuli and learn to categorize them according to a rule, they have to segment the stimuli into relevant features for categorization. Our central question is whether children aged four or six who were able to discover the rule in a simplified version would generalize it to a "complex" version of the relevant features (i.e., in which there is more background noise) that they would be unable to learn before thirteen with no pre-training. Conditions promoting generalization from the simple version to the complex were also investigated. Two conditions were compared: relearning with or without feedback. Results showed that children aged 6 generalized the "simple" version of the target concept to more complex versions of the same concept with feedback in the generalization phase but less well without feedback. Children aged four did not generalize quite well in both conditions.

The results indicate that variability must be included in any model of concept learning. First, the probability that a relevant dimension will be discovered depends on the presence and the structure of the other dimensions (irrelevant) that compose the stimuli and, more specifically, that participate in the manifestation of the rule. Second, in order to understand whether or not a particular instance of a dimension will be discovered by children, one has to include the history of categorization of the participants (see Schyns, Goldstone, & Thibaut, 1998; Thibaut & Schyns, 1995).