

# **The influence of frequency distribution of the input and test task requirements, in artificial grammar learning (AGL).**

**Fenna Poletiek**

Leiden University, the Netherlands

**Nick Chater**

University College London, UK

**Abstract:** Poletiek and Chater (2006) suggested that exposure to a frequency distribution of exemplars that represents the probability distribution of exemplars to be generated by the grammar, facilitates categorization performance in an artificial grammar learning task (AGL). Yet, as predicted by the power law of practice, equal frequency distribution should enhance memory for exemplars, in the same task. We explore this possible contrast by testing sensitivity to structure and memory for individual exemplars in two AGL experiments, under different conditions of task requirements (categorization versus recognition) and input distributions (equally versus unequally distributed). The results suggest that an even frequency distribution of the input facilitates a memory process. By contrast, an unequal distribution -modeling the probability distribution of items to be generated by the grammar slightly facilitates sensitivity to structural properties of the input. Interestingly, memory for individual items versus sensitivity to structure did not depend on the task performed.