George A. Miller (1995). WordNet: A Lexical Database for English. Communications of the ACM Vol. 38, No. 11: 39–41.

Morteza Dehghani, Emmett Tomai, Ken Forbus & Matthew Klenk. 2008. An integrated reasoning approach to moral decision-making. In Proceedings of the 23rd national conference on Artificial intelligence – Volume 3 (AAAI'08), Anthony Cohn (Ed.), Vol. 3. AAAI Press 1280–1286.

https://doi.org/10.20378/irbo-51772

Implicit and Explicit Learning of Artificial Grammars from Letter Strings, Visual, and Visual-Motor Patterns

Jacqueline Hofmann, Tobias Kaiser, and Ute Schmid

Cognitive Systems Group, Faculty Information Systems and Applied Computer Science, University of Bamberg

We present experimental data and an ACT-R model to examine the influence of different modes of presentation on implicit and explicit learning. Specifically, we were interested in differences between learning artificial grammars from strings vs. from graphical representations. Our material was based on an artificial grammar investigated by Dienes et al. (1991). The grammar was modified such that each string could be composed from a set of four letters. The letters were interpreted as directions in a two-dimensional grid. Graphical representations were either presented in a passive mode – analogous to the string condition – or supplemented by a motor-task where the given pattern had to be reproduced with the cursor keys. In the implicit condition subjects were instructed to memorize the presented items for a later test, in the explicit condition subjects were instructed to try to detect the rules which are common to all items. 55 subjects participated in the online-experiment. Subjects were split into 6 groups with each group getting either letter, passive graphical or active graphical presentation and implicit or explicit intruction. After the learning phase, subjects ran through a testing phase consisting of a classification test, a pattern completion (SLD) test and free reporting of learned (explicitly known) rules.

In all groups, accuracy was significantly higher than guessing probability, indicating that an implicit learning process took place in all conditions. There was a weakly significant difference between the string-

presentation and visual presentation: subjects in the two-dimensional group performed better than subjects in the string group. However, this could only be observed for the classification-test in the group with implicit information, and for the SLD-test in the group with explicit information. A reinforcing influence of the motor-task could not be observed.

The experimental conditions are currently modelled in ACT-R to reproduce results for the classification test. Strings are represented as transition rules. Visual patterns are represented as grid coordinates. Motor patterns are represented as associations. Classification of test items is based on utility for strings, on positional similarity for visual patterns and on association strengths for motor patterns.

References

Dienes, Z., Broadbent, D., & Berry, D. (1991). Implicit and explicit knowledge bases in articial grammar learning. J. of Experimental Psychology: Learning, Memory, and Cognition, 17, 875–887.

Size Matters! How Value Organizes Our Perception of Art

Martina Jakesch[1], Stefan Ortlieb[2], Marius Raab[2], and Claus-Christian Carbon[2]

[1] Department of Psychological Basic Research and Research Methods, Faculty of Psychology, University of Vienna
[2] Department of General Psychology and Methodology, University of Bamberg

It's one of the most famous findings in psychology: the perceived value of an object influences how we internally represent that object. What Bruner and Goodman (1947) have shown for coins—rich and poor children showed significant differences in their judgment of coin sizes—should also hold when value is a question of highly ideosyncratic appreciation.

For works of art, there should consequently be a connection between one's appraisal of a given artwork (e.g., a painting) and an estimation of that artworks 'real' size. Art experience is said to be linked with emotions; and paintings are, in contrast to coins, rarely part of every-day