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Timmy Ma* (timmy.ma@dartmouth.edu), Mathematics Department, Dartmouth College, HB 6188, Hanover, NH 03755. *Object-Label-Order effect when learning from an inconsistent source.*

Learning in natural environments is often characterized by a degree of inconsistency from an input. We focus on the setting where a learner receives and processes a sequence of utterances to master associations between objects and their labels, where the source is inconsistent: it uses both “correct” and “incorrect” object-label pairings. We hypothesize that depending on the order of presentation, the result of the learning may be different. We consider two types of symbolic learning procedures: the Object-Label (OL) and the Label-Object (LO) process. With OL, the learner is first exposed to the object then the label. This order is reversed with LO. It is observed experimentally that OL learners are generally better at processing inconsistent input compared to LO learners. We show that the patterns observed in the learning experiments can be reproduced in the simulations if the mathematical model includes: (1) an ability to regularize the input (and also to do the opposite, i.e. undermatch) and (2) an ability to take account of implicit negative evidence (i.e. interactions among different objects/labels). The model suggests that there is a difference in regularization patterns: OL learners regularize the input and thus form a consistent system, whereas LO learners undermatch. (Received September 12, 2019)