Violation of expectations and syntactic structure acquisition: An artificial language learning study

Giulia Bovolenta and Emma Marsden
University of York

According to usage-based approaches to L2 learning, the development of abstract structural knowledge proceeds through generalisation from individual instances of language use, which are stored in memory by learners as they encounter them. We also know that memories for novel items (e.g. arbitrary picture – word associations) that violate expectations are often stronger than those which conform to expectations (Greve et al., 2017). Therefore, in this study, we asked whether expectation violation - specifically, the presence of unexpected items during learning – could also lead to improved generalisation of abstract structural knowledge. We used a cross-situational learning paradigm adapted from Walker et al. (2020) to teach participants an artificial language with two alternative syntactic structures (active vs. passive), over the course of three days. On the second day, participants were told they would receive feedback on some of their choices. Feedback was manipulated to be either always consistent with the sentence that subjects had given their response on (Control Group, CG), or occasionally inconsistent, where active sentences would be sometimes be replayed in their passive alternative instead (Surprisal Group, SG). On the third day, participants were tested on their structural knowledge both by means of structure test trials (cross-situational learning trials focusing on the active / passive distinction, with both familiar and novel verbs), and by a grammaticality judgment task (GJT). Participants in the SG were significantly more accurate than the CG on the structure test trials using novel verbs and in the GJT, suggesting they had developed stronger abstract structural knowledge and were better at generalising it to novel instances, even though they were not significantly more likely to become aware of the functional distinction between the two structures.