

Individual difference predictors of L2 learning at the syntax/semantics interface

Although cognitive individual differences have been extensively investigated as predictors of L2 learning in SLA and cognitive psychology (e.g., Granena, 2013; Hamrick, Lum & Ullman, 2018), no studies to date have elucidated their role in the learning of word order/meaning relationships, such as those required to interpret the thematic role of a nominal phrase depending on its position in the sentence (thematic linking).

The present study investigated the earliest stages of adult exposure to a novel miniature language and aimed at elucidating the extent to which declarative and procedural learning ability predict L2 sentence comprehension (1) during practice in general, and (2) specifically in sentences where thematic linking is crucial for accurate interpretation.

In the context of a computer board game in incidental instruction conditions, 36 L1 Italian young adults were aurally exposed to a miniature language modeled on Japanese over three sessions (264 sentences in total, approximately 2.5 hours of exposure). Behavioral standardized memory tasks, vocabulary retention, and an Alternating Serial Reaction Time task provided measures of declarative, vocabulary and procedural learning ability respectively. Accuracy in comprehension was tracked online during the game, with a subset of the stimuli specifically probing thematic linking.

Confirming previous results (e.g., Morgan-Short et al., 2014), generalized mixed-effects models revealed that, overall, declarative learning ability (but not procedural learning ability) predicted L2 outcomes at early stages of exposure. However, in the subset of stimuli where the correct interpretation of thematic linking was key, a positive interaction between declarative and procedural learning ability was a significant predictor of learning. These results constitute initial evidence of the synergetic role multiple learning abilities play in the early stages of L2 processing and of the engagement of procedural learning ability in supporting the early establishment of accurate L2 representations at the interface between semantic interpretation and word order.