UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Adult Prediction Error Processing is Associated with Vocabulary Size

Permalink

Journal

Authors

Snelling, Katherine
Fitneva, Stanka

Publication Date

2019

Peer reviewed

Adult Prediction Error Processing is Associated with Vocabulary Size

Katherine Snelling
Queen's University, Kingston, Ontario, Canada

Stanka Fitneva
Queen's University, Kingston, Ontario, Canada

Abstract

How do individuals learn language when there are so many possible potential referents for each word? Prediction-based theories of language learning propose that predictions enable individuals to learn from implicit negative evidence by comparing the predictions to outcomes. However, the role of prediction errors for learning has yet to be established. Traditionally, prediction errors have been believed to hinder learning. Recently though, prediction errors have been associated with improved novel word acquisition in cross situational learning. This present study used a cross-situational word learning task to examine the relation between prediction error-based processes during word learning and vocabulary size. The results showed that learners who switched their gaze more quickly from the non-target to the target image when they had to detect and correct prediction errors had higher productive vocabularies. This research supports the theory that productive vocabulary is strongly tied to predictive processes.