

Dear Editor,

We are writing to submit our manuscript, “Learning and long-term retention of large-scale artificial languages” as a research article to PLoS ONE.

Our manuscript addresses the question of how infants and adults learn the words of a new language? Before they can figure out meanings, learners must segment the continuous acoustic signal into discrete units. Previous research has suggested that learners can use information about the statistical co-occurrence between sounds to identify coherent chunks in small artificial languages, but it is still unknown both what this computation is and whether it can be applied to natural language-sized systems.

We explore these questions through an experiment with adult learners that goes far beyond the scope of previous experiments. We show that learners can acquire words in an artificial language with a thousand words (previous experiments used languages with 4–6 words). In addition, learners retained many of the words that they learned over a period of three years. This result suggests that passive exposure to language input can have a powerful and long-lasting effect on learners’ knowledge.

We have chosen PLoS ONE as an outlet for this work because we believe that it will be of broad interest to researchers in many communities. The question of the learning mechanisms underlying language acquisition and their generality is of interest to scientists working on human psychology and comparative cognition. In addition, the scope of our passive-learning experiments has exciting implications for work on education and second language learning. Based on our conversations with colleagues and friends we also believe that this work has intrinsic human interest.

We recommend Richard Aslin (aslin@cvs.rochester.edu), LouAnn Gerken (gerken@email.arizona.edu), and Jenny Saffran (jsaffran@wisc.edu) as reviewers for this manuscript.

Please feel free to contact us with any questions or concerns. Thank you very much for your consideration,

Sincerely,

Michael C. Frank, Joshua B.
Tenenbaum, and Edward Gibson