

Situated Artificial Language Learning

Language learners often encounter words in both linguistic and visual contexts, which provide complementary cues about the meanings of words, their syntactic properties, and the language's structure. While the intertwining of these contextual constraints is undoubtedly a challenge for learners, it also presents an opportunity. Not only can learners exploit cross-situational regularities to learn meanings and structure over time, but linguistic and visual context may also mutually constrain each other, helping to "bootstrap" learning processes. We investigate an integrative account of word and grammar learning assuming cross-situational word learning (CSWL). As in other CSWL studies (Yu&Smith, 2007), the visual noisiness is simulated, with multiple potential referents for words. Additionally, however, the language is encountered more naturally, in simple sentences. We report preliminary eye-tracking and accuracy results that reveal not only the time-course of word learning (including anticipatory eye-movements), but also the influence of bootstrapping effects due to semantic verb restrictions.

References

Yu, Chen & Smith, Linda B (2007). Rapid word learning under uncertainty via cross-situational statistics. *Psychological Science*, 18, 414-420.