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Multi-Level Linguistic Alignment in a Virtual Collaborative Problem-Solving Task

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Abstract

Co-creating meaning in conversation is challenging. Success is often determined by people's abilities to coordinate their language in strategic ways to signal problems and to align mental representations. Here we explore one set of grounding mechanisms, known as interactive linguistic alignment, that makes use of the ways people re-use, i.e., "align to," the lexical, semantic, and syntactic forms of others' utterances. In particular, the focus is on the temporal development of multi-level linguistic alignment and examine how its expression is related to communicative outcomes within a unique collaborative problem-solving paradigm. The primary task, situated within an educational video game, requires creative thinking between three people where the paths for possible solutions are highly variable. We find that over time interactions are marked by decreasing lexical and syntactic alignment, with a trade-off of increasing semantic alignment. However, a greater semantic alignment does not necessarily translate into better team performance. Overall, these findings provide greater clarity on the role of grounding mechanisms in complex and dynamic collaborative problem-solving tasks.