Title

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Abstract

Co-speech gestures that teachers spontaneously produce during explanations benefit students' learning by enhancing memory (Church et al., 2007). However, it remains unclear whether certain gestures are intrinsically more memorable, and if so, owing to what semantic and visual features. We created 360 10-second audiovisual stimuli by recording 20 actors producing natural, unscripted explanations of Piagetian conservation problems. For each audiovisual stimulus, two trained experimenters extracted high-level semantic and low-level visual/acoustic features in speech and gesture. We then tested online participants' memories using a between-subjects study-test paradigm in three different conditions: audiovisual (gesture+speech stimuli), visual-only (gesture-only version of the same stimuli), and audio-only (speech-only version of the same stimuli). We found that participants consistently remembered certain gesture, gesture+speech, and speech stimuli better than others. Focusing on the visual-only (gesture-only) condition, we discovered that both semantic (speech and gesture meaningfulness) and visual (number of hands used) features make co-speech gestures memorable.