How do manual gestures help to memorize and produce oral language?

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Context and research aim

Previous works have suggested close links between manual gestures and speech in human communication: people move their hands when they speak and even sometime speak with their hand. According to some theories, speech and gestures in communication may be part of a same system, early developed in childhood. Manual gestures are also more and more involved in speech therapies: gestures are successfully used to improve the comprehension and production of speech, both for kids with learning disabilities or patient with neurological damage. In order to better understand how the brain integrates gesture and speech to support oral language, the aim of this project is to analyze the effect of representational gestures in learning new words.

Methods

The study will consist in both perceptual and production tests. The participants will look at short movies showing unusual objects (small characters previously design and available as pictures and objects) in different conditions (speech only, speech + gesture). They will either look passively or repeat the speech and/or gesture. In a second phase, participants will be asked to remind or recognize the objects. We will control both gesture shape and speech stimuli. The procedure should be adapted such as it could be used with children as well as adults.

Objectives of the internship

• Review related work (a first list of references will be provided as a starting point),

• Design the experiment, recruit subjects;

• Conduct the experiment and analyze the results, using statistical methods such a ANOVA or Linear General Model.

The supervisors and collaborators will provide support and material for each step.

Applicants

The applicants should have programming skills and/or a good knowledge of software for experimental psychology to design the experiment, process and analyze data. Skills in experimental psychology and/or computer science and statistics are a plus.

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