UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Multimodality on screen: Multimodal spatial directions enhance children's spatial performance on virtual visual-spatial maps

Permalink

https://escholarship.org/uc/item/5nf0w1bb

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 46(0)

Authors

Orakçƒ±, Elif

Karadoller, Dilay Z.

Publication Date

2024

Copyright Information

Peer reviewed

Multimodality on screen: Multimodal spatial directions enhance children's spatial performance on virtual visual-spatial maps

Elif Orakçı
Istanbul University, Istanbul, Turkey

Dilay Karadoller
Middle East Technical University (METU), Ankara, Turkey

Abstract

In the context of online education, the impact of a speaker's gestures on children's spatial performance during learning still needs more exploration. Previous work found that spatial directions presented with gestures enhance children's performance on physical visuospatial arrays (Austin & Sweller, 2014). Here, we investigate whether spatial directions with or without gestures relate differently to 5-year-old monolingual Turkish children's spatial performance on a computerized map task. Children engaged in a task on a tablet that required them to recall the route directions presented in the videos either multimodally (speech-gestures combined) or in speech alone. Responses were coded for the target information in the route descriptions for actions (running), locations (school), and spatial directions (behind). Results only revealed better performance for encoding spatial directions presented multimodally (p=.013). Summarizing, the results emphasize the importance of multimodal input in enhancing children's spatial performance and highlight gestures' role in virtual visual-spatial learning environments.