

Sketches and Verbal Descriptions: Indices of Knowledge about Spatial Environments? Prompts to Refine Knowledge?

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Abstract

This study investigated sketch maps and written summaries as measures of large-scale spatial representations as well as learning aids to improve navigation proficiency. One hundred and fifty-six participants explored a virtual environment (VE) comprising independent and connecting routes. Participants were then asked to sketch or write a summary describing the layout of the VE. A free exploration phase followed in which they could learn more. The testing phase comprised two objective measures of navigation proficiency: a pointing task and a model-building task. Sketches provided significantly more target and route details about the VE than written summaries, although the quality of both correlated with objective navigation measures. Thus, both are good measures of spatial representations, despite prior doubts about them. However, neither sketching nor written summaries positively influenced subsequent exploration or spatial learning. Symbolic representations may not be effective tools for improving navigation skills. Another possibility is that they may be but only with further represent-explore-feedback cycles.