SketchMapia: A comprehensive way to analyse sketch maps

Angela Schwering
University of Muenster, Muenster, Germany

Jakub Krukar
University of Muenster, Muenster, Germany

Charu Manivannan
Institute for geoinformatics, University of Muenster, Muenster, Germany

Abstract

Sketch mapping is a method used to investigate an individual's cognitive map of the surrounding environment. Sketch maps provide qualitative insights into individuals' mental representations of space. Thus, sketch mapping is a powerful approach to study how people perceive and organize spatial information in their minds, Although the method of sketch mapping is used in numerous experiments to investigate people's spatial knowledge, there is no comprehensive method to analyze sketch maps. Most methods are quantitative and limited to counting features or determining the (metric) spatial distortion in sketch maps. Human spatial knowledge is incomplete, generalized and schematic. So are sketch maps. Our sketch map analysis method SketchMapia evaluates the completeness, level of generalization, and qualitative spatial accuracy of a sketch map. Our approach can assist researchers in psychology, cognitive science, geography, and education in systematically evaluating people's spatial knowledge via sketch maps, independent of specific research questions and experimental scenarios.

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