

How the mind processes complex spatial information

February 16 2015

Northwestern University's David H. Uttal will discuss a program that has enhanced students' learning at a variety of levels, from basic spatial reasoning to solving complex problems involving the coordination of numerous variables, such as those involved in climate change.

The program is a partnership between a cognitive scientist and an environmental scientist that facilitates [high school students'](#) reasoning about complex real-world scientific and engineering problems through the use of computer-based layered maps.

According to Uttal, the program has enhanced students' learning at a variety of levels, from basic spatial reasoning to solving [complex problems](#) involving the coordination of numerous variables, such as those involved in [climate change](#).

Uttal is a professor of psychology in the Weinberg College of Arts and Sciences and professor of education in the School of Education and Social Policy at Northwestern University.

He has conducted extensive research on cognitive development, spatial cognition, symbolic development and mathematical thinking. His recent work has examined how training influences spatial thinking and how much is needed.

Improving [spatial skills](#) is important because children who do well at spatial tasks such as reading maps and assembling puzzles are likely to

excel in science, technology, engineering and mathematics (STEM).

Uttal, also the director of graduate studies in the department of psychology at Northwestern, will present "Promoting Spatially Based Scientific Reasoning with Geographic Information Systems" as part of the American Association for the Advancement of Science (AAAS) annual meeting in San Jose, California.

His presentation is part of the symposium "Learning from Visualization: Insights from STEM and Cognitive Science Collaboration" to be held from 9:45 to 11:15 a.m. Monday, Feb. 16 in Room LL21F in the San Jose Convention Center.

More information: Symposium: "Learning from Visualization: Insights from STEM and Cognitive Science Collaboration" 9:45 to 11:15 a.m. Monday, Feb. 16 Room LL21F in the San Jose Convention Center

Provided by Northwestern University

Citation: How the mind processes complex spatial information (2015, February 16) retrieved 25 April 2024 from <https://medicalxpress.com/news/2015-02-mind-complex-spatial.html>

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