

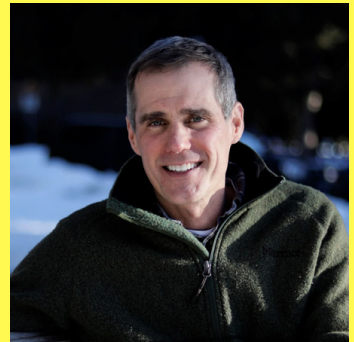
# PSYCH FORUM



## Does Science Learning Rely Heavily on One Type of Thinking?

*Ten years ago, my research asked a simple question: "What skills, attitudes, or other student attributes best predict success in college science courses?"*

*The surprising answer was skill at scientific reasoning. This discovery led me to develop a simple theory of science and learning. However, I propose if we look at the thinking used to do science, we discover science relies heavily on one cognitive activity: hypothetical thinking. Such thinking involves imagining different ways nature might operate, mentally exploring those imaginary worlds, and identifying implications for the world we live in. I further propose students use hypothetical thinking to evaluate their understanding of science concepts in school. If this is correct, cognitive psychology has exciting new ways to contribute to the study of science and to science education*



Steven Kalinowski studied biology at Stanford University (BS, 1992) and conservation genetics at Arizona State University (PhD, 1999). He has been a professor at Montana State University since 2003. For the first half of that time, he ran a fish and wildlife genetics laboratory, but for the past ten years has studied how college students learn science.

***March 13 at 1pm  
Dudley Moorhead  
Hall 308***