UC SANTA BARBARA

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The Science of Learning

There's never been a better time to learn.

So says UC Santa Barbara applied psychologist Richard Mayer, who has devoted his career to formulating principals of instruction that teach people how to apply what they learned to new situations. His recent research shows that multimedia instruction is particularly effective, and in the 21st century, computers have made that easier to execute than ever before.

For his efforts, Mayer has been chosen by the Association for Psychological Science (APS) to receive the 2018 James McKeen Cattell Fellow Award. The highest honor conferred by the APS, the Cattell Award recognizes distinguished APS members for a lifetime of outstanding contributions to applied psychological research.

"It's an honor to get a lifetime achievement award," said Mayer, a psychology professor who also is affiliated with the campus's Gevirtz Graduate School of Education and Center for Information Technology and Society. "To be recognized by my colleagues means a lot to me; it's a humbling experience."

"It's hard to keep up with the many awards Rich's extraordinary body of work has so deservedly attracted, but this is a particularly apt one, celebrating as it does not just one or two but career-long empirical and theoretical contributions with exceptional relevance to applied domains that change people's lives," said Diane Mackie, chair of the Department of Psychology & Brain Science. "We are fortunate to have Rich as a theorist, researcher, mentor and colleague in the department."

Mayer’s research combines cognition, instruction and technology to examine multimedia learning and learning in computer-supported environments and via computer games. “The unifying goal is to conduct methodologically rigorous studies that yield research-based principles of instructional design and contribute to cognitive science theories of how people learn,” Mayer explained.

Building on that goal, Mayer has developed a theory of multimedia learning relevant to the design of online instruction. With colleagues, he has conducted more than 100 experimental tests that have led to the development of 12 research-based principles for how to design online learning environments and computer-based games. His work also extends to the design of computer games for learning and using social cues such as polite speech and gesture to increase learner motivation.

With respect to multimedia learning, Mayer seeks to determine how people learn scientific explanations from computer-based animation, video and narration; the ways in which illustrations affect how people learn from scientific text; and how people learn to solve problems from interactive simulations.

Mayer’s research on computer-supported learning examines ways to improve online learning with pedagogical agents, intelligent tutoring systems, mobile devices and virtual reality. His work also explores factors that increase the effectiveness of educational games and whether computer games improve cognitive and perceptual skills.

Mayer holds three degrees in psychology: a B.A. from Miami University in Ohio and a both a master’s. and doctorate from the University of Michigan. He became a faculty member in 1975 and served as the chair of the Department of Psychology from 1987 to 1990. Mayer is a fellow of the APS, the American Educational Research Association (AERA) and the American Psychological Association (APA), and a member of the Association for Educational Communications and Technology, the Cognitive Science Society, the Psychonomic Society, the Society for Applied Research in Memory and Cognition and the Society for Text and Discourse.

Mayer served as president of the APA’s educational psychology division and as vice president of AERA’s learning and instruction division. He is the winner of the Thorndike Award for career achievement in educational psychology, the Scribner Award for outstanding research in learning and instruction and the APA’s Distinguished Contribution of Applications of Psychology to Education and Training Award. Mayer is ranked No. 1 as the most productive educational psychologist in the

world by the journal Contemporary Educational Psychology.

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.