Presentation by Dr. Roxana Moreno

When: November 2nd, 3:00pm - 4:00pm
Where: 139 Teachers College Hall

Instructional Technology: Creating a Window of Cognitive Engagement for STEM and Teacher Education

How might technology serve the goal of promoting science, technology, engineering, mathematics (STEM) and teacher education? In this talk, I offer an answer to this question by reviewing the findings of a research program aimed at applying a cognitive-affective theory of learning with media to guide the design of educational technology. Based on this theory, I start by making the case for the need to design instructional technology that opens students’ window of cognitive engagement, reduces extraneous processing, and increases essential and generative processing. Then, I present the empirical support for this argument by reviewing several studies of interactive STEM and teacher education technologies. Under the light of the results, I summarize some of the conditions under which technology-based environments might promote students’ learning and positive learning perceptions.

Short Biography

Dr. Roxana Moreno is an Associate Professor in Educational Psychology at the University of New Mexico. Her research interests are in applying cognitive and motivation theories to educational technology with a special focus on learning, higher-order cognition, and individual differences. Among her awards are receiving the Presidential Early Career Award in Science and Engineering, the APA Richard E. Snow Award for Early Contributions to Educational Psychology, and the University of New Mexico Regent’s Lecturer Award. She was ranked one of the twenty most prolific individual scholars conducting educational psychology research. As the Principal Investigator of two NSF grants, she is currently evaluating a virtual classroom system for teacher education and peer avatar environments for pre-college engineering education. Dr. Moreno serves on the editorial boards of Educational Psychology Review, Educational Psychologist, and Educational Researcher; is an appointed scientist for the U.S. Department of Education; and has been recognized as a Fulbright Senior Specialist in the areas of Education and Instructional Media Design.