

Do Interactive Simulations in Journal Articles Promote Learning?

Purav Patel

University of Wisconsin - Madison, Madison, Wisconsin, United States

Alex Kuo

University of Wisconsin - Madison, Madison, Wisconsin, United States

Kelsey Wenzel

University of Wisconsin - Madison, Madison, Wisconsin, United States

Abstract

Peer-reviewed scholarly documents like empirical journal articles are the vehicles through which scientific discoveries are communicated, critiqued, and applied to practical contexts. Whether these papers are published in print journals or hosted on websites, readers experience significant learning barriers. Consider, for instance, the difficulty of reading experimental methodologies. Articles usually describe complex methods using static text and images. This approach limits learning on an individual level and collective scientific progress. Here, I explored whether interactive simulations of experimental tasks interleaved with text may better convey methodological information in a psychological journal article. In a laboratory experiment, novice undergraduate students studied an article composed of (1) text and images, (2) text and videos, or (3) text and interactive simulations of experimental tasks. Posttest scores and responses to a questionnaire favored interactive simulations. Results are interpreted using multiple learning theories.