

What research on learning is revealing about better ways to teach physics

Abstract: Guided by experimental tests of theory and practice, physics has advanced rapidly in the past 500 years. Guided primarily by tradition and dogma, physics education meanwhile has remained largely medieval. Research on how people learn by my group and others is now revealing much different and more effective ways to teach and evaluate physics learning than what is in use in the traditional university physics class. I will discuss some particularly notable recent advances we have made in the understanding and teaching of expert problem solving in science.