

Engaging Students in Modeling Instruction

Teachers tend to teach as they were taught. From this perspective the introductory physics course is of primary concern in the preparation of physics teachers. Modeling Instruction is an active learning strategy built on the premise that science proceeds through the iterative process of model construction, development, deployment and revision. We describe the role that participating in 'authentic' modeling has in learning and then explore how students engage in this process in the classroom. In this presentation we provide a theoretical background on models and modeling and describe how these theoretical elements are enacted in the introductory university physics classroom. We provide both quantitative and video data to link the development of a conceptual model to the design of the learning environment and to student outcomes.