Supporting Next Generation Science Learning in K-12 Classrooms

I will discuss the research-based recommendations for reform of U. S. K-12 science education in the NRC Framework for K-12 Science that guided the development of the Next Generation Science Standards (NGSS). NGSS reflects three major evolutions in standards for science education that challenge widely-used assessments, curriculum materials, and the manner in which science is often taught: (1) Learning is organized around a small number of core explanatory models, rather than a “mile wide and inch deep” superficial treatment of too many topics. (2) Students use science and engineering practices to develop and apply these ideas through investigation and explanation of how and why phenomena occur. (3) The standards characterize coherent progressions, in which students build connections between ideas over time and between science disciplines. I will discuss the implications of these shifts for classroom teaching and curriculum materials, and present classroom examples of next generation science learning.

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