

Why science education is more important for the world than most scientists realize.
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The knowledge and the problem-solving skills of scientists are critical for every nation – no matter how rich or poor. Thus, for example, science has produced a deep understanding of the natural world that often enables an accurate prediction of the consequences of current actions on the future. In addition, every society needs the values of science: honesty, generosity, and an insistence on evidence while respecting all ideas and opinions regardless of their source of origin. To spread such values, science education needs to be redefined at all levels, with much less emphasis on the memorization of science facts and terms. Instead, we should be providing empowering experiences in problem-solving that take advantage of the curiosity that children bring to school and increase a student's understanding of the world. Closely related changes in the introductory science courses in college, emphasizing "science as a way of knowing," are the key to driving these reforms.

Even more broadly, we must focus on making a science out of education, which means creating continuously improving education systems at all levels, based on evidence-based analyses of how people learn and what works in actual classrooms. None of this can be expected to happen without the permanent involvement of each nation's scientists, in close partnerships with science teachers at all levels.