The Next Campaign

THE U.S. PRESIDENTIAL ELECTION IS OVER; THE INAUGURATION HAS COME AND GONE. Now come the challenges of governing. President Obama, his leadership team, and the 111th Congress face daunting problems. Among the most stubborn in the United States are those related to providing a world-class education to all children, updating the knowledge and skills of their parents, and preparing all to face the threats and opportunities of the 21st century. The science community must take advantage of growing public dissatisfaction with the current education system and ask how science teaching and learning can be transformed. In short, scientists must mount the next campaign.

First, scientists must help the adult public develop a clear understanding of what science is and what science education should be: a way of knowing about the world based on evidence and logical analysis. A consensus is emerging across science, philanthropic, and political communities about what our goals must be. Surveys from the nonprofit organization Public Agenda indicate that adults realize something is amiss in science instruction, though not necessarily for their children. That unease can provide license to introduce a common core of science education standards across the United States; to invest as a nation in assessments that measure the science understandings and abilities that every child needs for success in today’s global economy; and to mount vigorous efforts to recruit, train, and retain highly effective science teachers.

If the United States is to address its many challenges—including developing a “green economy” and alternative sources of energy that lessen climate impacts and address global climate change as perhaps the greatest threat we face as a planet—science education must move to center stage. President Obama has recognized the challenges of recruiting and compensating science and mathematics teachers and of making science, as in post-Sputnik years, a more integral, inspirational part of national culture. Now we must turn such far-reaching national vision into grassroots reality.

Although the need for creating a talent base for careers and science-savvy citizenry for the 21st century is national (indeed, global), most of the action to accomplish it is local. Messaging is needed to explain past scientific contributions to economic growth and science’s traditional role as an engine of change. Campaign workers must be recruited, trained, and deployed from the ranks of academic scientists, business and industry, patient advocacy groups, and unions. Resources must be marshaled from local philanthropy, understanding the need to build public awareness and support for an agenda for change. Endorsements must be enlisted from the media, but also from community groups, parent-teacher associations, and senior citizens of all political persuasions. The science community itself has much to offer here. Think of expanding by orders of magnitude the numbers of retired scientists and engineers currently working with teachers and students in schools or in museums and science centers as docents; scientists serving on statewide education commissions and councils being convened by many governors; and in local communities, scientists advocating for science education to mayors, school boards, and superintendents and supporting implementation with principals, teachers, and students.

In this campaign, scientists will need to assess assets nationally and locally, noting what has worked elsewhere, such as in Nordic countries where science literacy is high. Unlike some countries, the United States has no overarching education ministry. Instead, a strategy for transforming science education must unite the interests and actions of 50 states, 15,000 local districts, 3500 colleges and universities, and countless informal science organizations that constitute the U.S. educational system. Federal incentives must foster collaboration in gathering and sharing evidence from experimentation informed by research, guided by core national science education standards. States could begin with decades-old lessons learned by the American Association for the Advancement of Science (AAAS) and the National Academies, and by states such as Massachusetts or countries such as Singapore, both of which have performed well on international assessments.

Although scientists are generally more comfortable presenting facts than going on the stump, the next campaign demands that they do both. – Leon M. Lederman and Shirley M. Malcom

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