More Education for Evolution Teachers

A n energized and vocal conservative religious movement has in recent years demonstrated a desire to reshape our nation’s K–12 curricula to reflect its belief system. In states across the nation, elements of this movement have exerted political pressure on education officials who develop academic content standards. Not surprisingly, these groups are working to have alternative, nonscientific explanations for the diversity and history of life included in state science curricula. Luckily, these efforts have been beaten back by coalitions of scientists, educators, parents, theologians, business leaders, and others committed to ensuring that students receive a science education that will allow them to compete in the global economy of the 21st century.

Ultimately, if we are committed to providing students with a sound biological science education, we must understand the perceptions and misconceptions teachers have regarding evolution. As Randy Moore illustrates in his article, “How Well Do Biology Teachers Understand the Legal Issues Associated with the Teaching of Evolution?” on p. 860 of this issue of BioScience, too many science teachers misunderstand the legal framework surrounding the evolution–creationism controversy. Notably, too many teachers mistakenly believe it is lawful to teach creationism or other alternative, nonscientific explanations for the history and diversity of life alongside evolution. Consequently, some of these teachers are ill-prepared to teach about evolution, or they may provide students with incomplete or confused explanations, thereby furthering public misconceptions about the field of evolutionary biology. Moore proposes an initial step toward improving the way students learn about evolution: University science education faculty need to provide current and future science teachers with accurate training on the legal environment in which evolution is taught, which means that alternative, nonscientific explanations are not to be taught at all.

As Moore’s survey results indicate, university biology faculty must accept partial responsibility for many science teachers’ incomplete understanding of evolution and the nature of science. Thus, science faculty must commit to doing a better job of teaching the principles of evolution to all students.

Few teachers wish anything but the best for their students. Most teachers struggle to provide students with the best possible education they can while juggling large class sizes, limited support networks, and inadequate opportunities for ongoing professional development. Given these and other challenges, scientists and scientific organizations need to work with teachers to develop materials that will help students learn science. For this reason, the American Institute of Biological Sciences has partnered with the National Association of Biology Teachers (NABT) and the Biological Sciences Curriculum Study to sponsor a special symposium, “Evolutionary Science and Society: Educating a New Generation,” at NABT’s November 2004 convention, which will bring together leading scholars and science teachers.

Symposium participants will receive practical illustrations of the importance of evolutionary biology to our daily lives, and teachers will leave with information and materials that will help them teach the principles of evolutionary biology.

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