Helfand Discusses Teaching Scientific Habits of Mind in Core Curriculum

Caroline Lusignan

T is science courses, Professor David Helfand asks students to imagine going to a small village in the developing world to assess the health of villagers. Some may ask, is this really science? For Helfand, a retired chairman of the College of Physicians and Surgeons, it is.

Science is, of course, the process of discovery and development of new ideas and technologies. But the process is not the result of a linear progression of thoughts. It involves skepticism, debate, and collaboration among scientists. "Science is a constructive process," says Helfand. "It is intellectual activity beyond the role of discovery and invention." The intellectual activity of scientific thinking could become a part of learning for all students, Helfand says. A new course teaching estimation and other critical modes of scientific thinking will be an opportunity to extend scientific thinking beyond the classroom and into the broader world. "The course will focus on current research in the forefront of science, such as neutrino science, global climate change and dark matter in space—while highlighting common scientific techniques used across many disciplines." Lectures and discussion will explore the difference between the scientific method and the information age, and how the two can be used together to solve problems.

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Helfand staunchly believes that the science course for incoming Columbia students will serve as a springboard for a broad, interdisciplinary approach, to reinforce this kind of thinking while Earth scientists estimate the role of develop- ment and a restoration due to cancer. And removed prosthesis. But the surgery can’t change and dark matter in space—one of the last couple of years. Two faculty members who have worked closely with Helfand are developing the pilot course are Darcy Kel- key, professor of biological sciences, and Jacqueline van Gorkom, pro- fessor of astronomy.

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