

Plenary Speaker

Schooling Versus Education and other Balancing Acts

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(I try not to let my schooling interfere with my education. Mark Twain)

Abstract: In his splendid set of essays on education, *Embracing Contraries*, Peter Seldin observed that college teaching is a schizophrenic profession. As professors we have to meet the requirements of two distinct and contradictory roles. On the one hand, we must be *gatekeepers*, setting and enforcing standards high enough to make sure we feel safe on the bridges and in the buildings and planes and near the chemical and power plants our students design and build. On the other hand, we must be *coaches*, doing everything in our power to help our students get over the high barriers we have set in their path. These competing demands can make it hard to plan the day.

That dilemma is only one of many we routinely face. We are called upon to be researchers and teachers, both of which are full-time jobs when done correctly; to help our students avoid mistakes and to let them make mistakes and learn from them; to teach students what they must know to be engineers (schooling) and to wean them away from us so they can learn on their own (education); to communicate our values on social and ethical consequences of engineering decisions and to keep our personal biases out of our classrooms; and on into the night. This presentation discusses different elements of this professional high-wire act and suggests strategies for staying on the wire.

Richard M. Felder is Hoechst Celanese Professor Emeritus of Chemical Engineering at North Carolina State University, Raleigh, North Carolina, and co-director of the SUCCEED Engineering Education Coalition faculty development program. He is co-author of Elementary Principles of Chemical Processes (3rd Edition, John Wiley & Sons, 2000), which has been used as the introductory course text by most American chemical engineering departments for more than two decades. He has authored or co-authored over 150 papers on chemical process engineering and engineering education and presented hundreds of seminars, workshops, and short courses in both categories to industrial and research institutions and universities throughout the United States and abroad. Since 1991 he has co-directed the National Effective Teaching Institute under the auspices of the American Society for Engineering Education (ASEE).

Dr. Felder received the B.Ch.E. degree from the City College of New York in 1962 and the Ph.D. in chemical engineering from Princeton University in 1966. He worked for the Atomic Energy Research Establishment (Harwell, England) and Brookhaven National Laboratory before joining the North Carolina State faculty in 1969. His honors include the R.J. Reynolds Award for Excellence in Teaching, Research, and Extension, the AT&T Foundation Award for Excellence in Engineering Education, the Chemical Manufacturers Association National Catalyst Award, the ASEE Chester F. Carlson Award for innovation in engineering education, the AIChE Warren K. Lewis Award for contributions to Chemical Engineering Education, the ASEE Chemical Engineering Division Lifetime Achievement Award for Pedagogical Scholarship, and a number of national and regional awards for his publications on engineering education. Many of his publications can be viewed at <http://www.ncsu.edu/effective_teaching>.