Teaching New Dogs New Tricks: The Next Generation of Physics Faculty

GERALD FELDMAN, George Washington University — I was privileged to attend the first New Faculty Workshop (NFW) in 1996, and that was the spark that kindled my keen interest in teaching methodology, learning assessment, and Physics Education Research (PER). Following Eric Mazur’s introduction to Peer Instruction, I became a strong advocate of ConceptTests in class, implemented an electronic student response system before they were widely in vogue, and emphasized conceptual understanding on the same footing as numerical computations. This led to a research project on the efficacy of in-class ConceptTests, and further, to the linking of conceptual and numerical aspects in a “thinking skills” curriculum for introductory physics at George Washington University (GWU). After “dabbling” in PER for some years, several of us at GWU now have a credible research program and our first Ph.D. student in PER. The methods espoused by PER have extended to other members of the Physics Department, and even beyond, to other science departments on campus. Following this trend, we have most recently (Spring 2008) implemented a SCALEUP collaborative classroom modeled after the work of Bob Beichner at NC State. Overall, the teaching climate in the GWU Physics Department has changed considerably over the past decade, and it is clear that these changes ultimately trace their origins back to the impact of the NFW on the faculty members who have attended over the years.