



Engineering and Science Education Seminar
Friday, January 30, 2009, 9:00 – 10:30 am
302 Rhodes Engineering Research Center

Realism and its Power for Tapping into Students' Passion for Learning

Dr. Janis Terpenny
Virginia Tech

This talk will emphasize the impacts of realism and its power for tapping into students' passion for learning ... and that of teaching faculty. We know nationally, there is a growing call to better prepare students to understand and solve problems that are ill-defined and complex, to work in interdisciplinary teams, and to communicate better, both in written documents and in presentations. Contrived 'problems' and the use of case problems can be used to address these needs, but are far removed from the richness of realism brought by real problems with real partners. Often, it is in the senior year that students have such experiences for the first time. Yet, this is very late in the educational process. If students were exposed to realism throughout their education, they would find their passion and direction sooner, gain the confidence and knowledge of how to tackle difficult problems. Indeed, from my experiences, providing many more opportunities for students to learn in the context of real problems and real partners sooner and repeatedly increases their ability to think, appreciate what they have learned, and seek to mentor others as they find their passion for new knowledge and where they fit in this world. This talk will provide highlights of how realism can be incorporated and how to assess the impacts of such. Tips are offered for creating and maintaining the collaborations and partnerships needed. Finally, attendees will have the opportunity to consider how their passion might be incorporated into realism that fosters learning.

Presenter Biography

Janis Terpenny is an Associate Professor with a joint appointment in the Departments of Engineering Education and Mechanical Engineering and an affiliate faculty of Industrial and Systems Engineering at Virginia Tech. Dr. Terpenny is the Director of the Center for e-Design, a 5-university NSF industry/university cooperative research center. She is an Advance Professor and Diggs Teaching Scholar at Virginia Tech and a Dean's Faculty Fellow in the College of Engineering. Her research focuses on engineering design and design education. She has been the principal or co-principal investigator on over \$5 million in research funded by NSF and industry, and has published several book chapters, and over 90 peer reviewed publications. Topics in design include process and methods for early design; knowledge engineering; product families and platforms; and methods to predict and plan for obsolescence in products and systems. Design education topics include the preparation of students to understand and solve problems that are real, ill-defined and complex, work in interdisciplinary teams, and the impacts of design project types on engagement and learning. Dr. Terpenny is devoted to increasing the number of women and minorities in engineering through mentoring and research opportunities. Formerly, she was an assistant professor at the University of Massachusetts Amherst. She also has prior industrial experience with the General Electric (GE) Corporation, including the completion of a two-year corporate management program. She serves as the Associate Editor of Design Education for the Journal of Mechanical Design and as the Design Economics Area Editor for The Engineering Economist.

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