The International Plan: Global Competence for Undergraduates in Engineering

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There is growing recognition worldwide that engineering graduates must be prepared to live and work in the globally interconnected world that defines this century. Students should have the knowledge, skills, and attitudes that characterize global competence so that they can work knowledgeably and comfortably in a transnational engineering environment. Accomplishing this goal is daunting. We must come to consensus about the meaning of global competence, create model curricula for instilling it, and then determine the level of success by careful assessment. We are not there yet. In 2005 few university curricula, especially engineering curricula, prepare students for work in the increasingly global context of this century. A few universities have addressed the issue by offering various combinations of study abroad, international internships or work, international coursework, or language study but few integrate all of these components into a coherent plan suitable for students in engineering and even fewer integrate the international preparation into the practice of engineering in a global context.

The present paper addresses these issues in three ways. First, the concept of global competence and its definition are considered. What bundle of global competencies, however defined, do our graduating engineers need to compete effectively? Second, the issue of how to instil global competence in undergraduate engineers is addressed. Program models currently used by various universities to instil global competence are presented with a discussion of what each model suggests about the relative importance of various components of global competence. Finally, the paper addresses the importance of assessment and educational research to help determine which models for developing global competence and, therefore, which components of global competence are most important for producing well prepared and capable graduates.

In this context, a new model for instilling global competence is presented that is currently being implemented at the Georgia Institute of Technology called, "The International Plan." Available to students in all disciplines, it is a comprehensive and coherent degree-long program that integrates international study and experience into the student's disciplinary study. A case is made that the International Plan provides the kind of comprehensive and integrative global preparation that is necessary to produce globally competent engineers at least in the U.S. However, only through careful and detailed assessment will we be able to determine which models work best and why.

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