ABSTRACT:
Technology Education/Engineering Education: A Call for Collaboration

Post-secondary engineering institutions across the country and around the world are placing more and more emphasis on engineering education. The main catalyst for this collaboration is the desire to improve engineering pedagogy. Several National Science Foundation "Bridges for Engineering" planning grants have been awarded at institutions across the country to provide funding for collaboration to improve the pedagogy and classroom methods of engineering faculty.

This paper discusses that call for collaboration and suggests that technology educators are the group that will provide engineering faculty with a foundation for innovative practices in teaching. A brief history of collaborative efforts is revealed, and, in order to convince engineering faculty that technology education is the way of the future, technology education and engineering education are defined and compared. A review of the literature reveals that technology educators have been teaching engineering concepts for over one hundred years. Herein, the need for technology education/engineering education collaboration is discussed.

At the post-secondary level, existing institutional challenges and barriers currently make engineering and technology education collaboration somewhat difficult. The training and credentialing of post-secondary engineering teaching faculty typically does not include pedagogy and teaching methods. Furthermore, the priorities of the university reward system of Research I institutions are such that emphasis is more often placed upon program accreditation and acquisition of research funding rather than priorities that are student-centered. More insidious challenges and barriers include perceptions of prestige

and hierarchy among the disciplines;, differences in culture, language, symbols and artifacts;, inequities in funding and resources;, and recruitment and retention of students through a collaborative engineering and technology education environment.

Collaboration initiation and implementation strategies of current K-12, post-secondary, and professional models are presented. National Academy of Engineering president, William A. Wulf, endorses technology education as the vehicle to implement change; therefore, recommendations from the literature are made. Conclusions drawn indicate action is necessary on the part of technology educators and engineering educators alike. An agenda for collaborative action is presented.