DEANS OF ENGINEERING AND DEANS OF EDUCATION: BEST PRACTICES IN COLLABORATIONS ON CAMPUS

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Abstract—The need for a technologically literate citizenry is increasing with the rapid innovations occurring in technology. Pre-college schools and districts are not able to stay abreast of these innovations. Working together, university engineering schools and education schools are in a position to impact the level of technological literacy among pre-college students and current and future teachers and engineers. This panel session will showcase outreach programs resulting from on-campus collaborations that impact the pre-college community. Panelists will describe these and discuss how they overcame the barriers and constraints that arise when any new program is undertaken. Panelists will offer guidance on how schools of engineering and education can work collaboratively to increase the level of technological literacy among the pre-college community.

Index Terms—collaborations, outreach, pre-college education, technological literacy

BACKGROUND

The growing impact of technology on our society places engineers in a potential position of having significant influence on current and future teachers and their students. The need for “technological literacy” is increasing and pre-college institutions are being held accountable for producing technologically literate graduates. However, educators, like other segments of society, possess varying degrees of technical expertise.

Deans of Engineering and Deans of Education are in a position to be a valuable resource to the pre-college community. By working together they can impact future and current teachers and can help ensure that future teachers are better prepared to teach science, math and technology and that students have opportunities for exposure to technologically oriented concepts and subject matter.

The Technological Literacy Counts (TLC) workshop, hosted by IEEE, brought together over one hundred engineers and educators from around the world to address the lack of public understanding of technology. One of its major recommendations was that on-going collaborations between engineers and educators in all arenas from classroom teachers to university faculty to industry practitioners. We must maximize all our resources to prepare future and current teachers in science, mathematics, engineering and technology.

SESSION OVERVIEW

This session will feature campus collaborations that promote outreach to the pre-college community. Through the cooperative efforts of education faculty, engineering faculty, education students, and engineering students, these programs are working successfully to raise the overall level of technological literacy of ALL students. There are many efforts by engineering departments to interest local schools and students enrolling in engineering programs, but without the cooperation and expertise of the education faculty, these lack effectiveness and often lead to failure.

The presenters will describe how, by working together, they overcame obstacles, learned from their mistakes, and gained support for their efforts to help enhance science, technology, and math education at the elementary and secondary school levels. They will demonstrate how schools of engineering and schools of education can reach out to local schools and impact the number of current and future pre-college teachers and students exposed to technologically oriented subject matter. These programs also succeed in establishing engineering students as positive role models for promoting engineering as a career.

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