



"Everywhere is within walking distance—if you have the time."
—Steven Wright

TIME...

K-12 Committee Report
By John R. Hall, PE, FNSPE, FES Miami Chapter

Assessment Governing Board (NAGB) voted to include engineering as a new assessment component of the National Assessment of Educational Progress (NAEP) beginning with the 2012 test. The NAEP is the only national representative and continuing assessment of what America's students know and can do in various subject areas. (If you test it, they'll have to teach it.)

As I write this, a few weeks ago the International Technology Education Association (ITEA) was officially renamed the International Technology and Engineering Educators Association (ITTEA), and the NAGB voted to rename its NAEP Technological Literacy Assessment to become the Technological and Engineering Literacy Assessment. Both of these successes are the result of two years of lobbying by Dr. Yvonne Spicer of the U.S. Department of Education's Race-to-the-Top competition for state school funding is giving particular emphasis to innovative STEM proposals, in large part due to the passionate and persistent lobbying of Dr. Ioannis Miasoulis and the NCTL.

Last week, the *Engineering Education (E2) for Innovation Act* was introduced in the U.S. Senate, legislation that would increase student achievement in STEM, with its main focus on K-12 engineering education. A similar bill is being proposed in the House. Through competitive grants, the Act would fund the introduction of engineering education into K-12 curriculum.

I have met with industry representatives, educators and the Chief of Staff for Senator Nelson to seek Federal funding for engineering in the curriculum

for engineering in the curriculum

as a profession demonstrated little awareness or appreciation of the progress in our profession in the past five years. I am proud of what we have achieved in FES and on a national scale. Many in our profession are working hard to spread the message and America is becoming more aware. Five years ago, I would seek out, clip and save every news article that described the problem or offered a solution, perhaps as a personal validation that the problem was real. Today, it is hard to pass a day without stumbling across a reminder.

"I've always been in the right place and time. Of course, I steered myself there."
—Bob Hope

Following are a few of the accomplishments that I have been privileged to take part in or witness:

- The leadership at NSPE is emphasizing the importance of the "pipeline" of future engineers and FES is recognized by NSPE as an education leader. Hardly a week passes without me receiving a notice or inquiry about K-12 activities from other state societies.
- NSPE devoted an entire afternoon at each of its last two annual meetings to Design Squad activities with underprivileged students in the host cities, thereby exposing NSPE leaders from every state to the satisfaction of student involvement. The National Engineers Week Foundation is developing a new strategic plan, and considering a new name, to change its mission and emphasis from a single week to year-round activities, due to the NSPE members serving as its Trustees.
- Largely due to efforts by the National Center for Technological Literacy (NCTL), the National

This space is supposed to be dedicated to reports from our hard-working K-12 volunteers—our ambassadors to a new generation. This is where we read about the excitement and rewards of a classroom visit. This is where you become inspired and equipped to do the same. A lot is happening in the way of K-12 activities around the state. I would posit that the K-12 Committee is our largest and most active state committee. Yet our state committee represents but a fraction of the activities occurring on a local basis. Having just celebrated National Engineers Week, no doubt any one of a hundred engineers could have authored this column. Instead, this month, you get me.

Five years have passed since I first embarked on my mission to enlist, organize and equip the members of FES in the effort to introduce K-12 students to engineering. It is a good time to reflect and to assess our progress. It may be hard to imagine, but five years ago America was not yet aware, much less concerned, about the decline in engineering school enrollments. China and India were not commonly seen as technological competitors. There was barely anything on television that highlighted or celebrated engineering and technology. No one knew what STEM was. Few understood that America's future depends on America continuing to lead the world in innovation.

"Most worthwhile achievements are the result of many little things done in a single direction over a long period of time."
—Nido Qubein

Strangely enough, five years ago, even those of us who practice engineering



“He who would make serious use of his life must always act as though he had a long time to live and schedule his time as though he were about to die.”
—Emile Litre

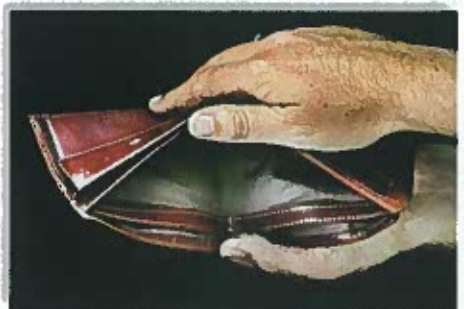
If you are involved in K-12 activities, I thank you. If you are not, please consider doing so.

“They always say *time* changes things, but you actually have to change them yourself.”
—Andy Warhol

As an engineer, a rational thinker, I want to believe that a reasoned argument is all it will take to effect change in our educational system. I become frustrated when our efforts do not produce immediate results, but looking back over the past five years, I can see that our labors are not without fruit. We have prepared the soil and planted the seed, but it takes time to produce the crop.

“Time makes more converts than reason.”
—Thomas Paine

Not everything has been positive in the past five years. We were well on our way to adopting new education standards for Florida that would mandate engineering in the K-12 curriculum, when two years ago, budget problems halted all progress. Funding remains our biggest obstacle, both at state and national levels. We still have such a long way to go.



“Axiom: Anything can be accomplished given enough time and money. Corollary: There’s never enough time and money.”
—Author Unknown

and for the retraining of NASA’s technical workforce to supply much-needed and highly-qualified instructors for the new K-12 curriculum.



The NEDC is a real-world high school design competition in which teams of students from across the nation design and build an assistive technology device for use by a person with a disability in their workplace. The best overall design won \$3,000 for their school’s sponsoring department, and other finalists were awarded \$1,500. JETS is a national non-profit educational organization dedicated to promoting engineering and technology careers to our nation’s young people. JETS programs touch more than 40,000 students and 10,000 educators from 6,000 high schools across the country every year.

The National Engineering Design Challenge (NEDC) is a competition which educates young people about careers in engineering, raises social awareness, and inspires a spirit of engagement and a willingness to help others. Five teams of high school students from across the country recently competed in the NEDC Finals in Arlington, Virginia. Gulliver Preparatory School from Miami won the Outstanding Assistive Technology Design with the “O.R.E.N.” (Operation Portable Entry Device). This device aids an individual to open any door from their wheelchair. Students from Bishop Kelly High School (Boise, ID) claimed the title “Best Overall.” Other finalist teams were Walnut Hills High School, Cincinnati, OH and Wethersfield High School, Wethersfield, CT.

Gulliver Preparatory School from Miami won the Outstanding Assistive Technology Design NATIONAL ENGINEERING DESIGN CHALLENGE

JETS



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