Will Life Be Better for Our Children?

Tom Coughlin

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Tom Coughlin (Region 6 Director Elect Candidate)
Coughlin Associates
Santa Clara Valley Section

In a previous blog (Geek is Chic) I discussed some general reasons why we need to educate more engineers and why being an engineer is one of the most respected professions to be in. In this piece I will explore who we can use technology to control the skyrocketing costs of higher education.

I recently received a copy of Forbes that ranked the costs of attending some of the best colleges in the country. While it was interesting to see how (and why) Forbes ranked the schools the way they did it was even more alarming to be reminded just how expensive college education has become in the US. Non-in-state annual costs at most of these schools ranged between $50k-$60k per year. That means a 4 year undergraduate degree can easily cost between $200k-$240k! This makes college education (without substantial help) out of the realm of possibility for many families, including those with engineers in the family.

Personally, I have two sons (both 16 at this time) who will both of an age to go to college in two years and we hope that they can both get some sort of scholarships to cover at least some of these expenses. The costs of education have gotten way out of hand and the creation of the next generation of technically trained professionals will be greatly hampered by these high education costs. Is there any thing that our technologies can do to help reduce the costs of training engineers and other technical professionals?

In fact there is. Just as on-line business has lowered the costs and increased the convenience of getting other goods and services so we can apply modern technology to lower the costs of education so we can enable the continued training of our sons and daughters. There are many universities that are offering on-line classes that count for college credit and services such as Apple's iTunes U offer many technically oriented classes given by professional instructors from well known schools such as Stanford, MIT, Purdue and many others and usually for free (although they don't count for college credit).

John L. Hennessy, Stanford president, predicts the death of the lecture hall as university education moves online in the May 2012 IEEE Spectrum article: http://spectrum.ieee.org/geek-life/profiles/john-l-hennessy-risk-taker/0. He projects that on-line education will be used in university as well as high school education and that it will increasing rely on video classrooms rather than physical

classrooms, which should provide a more effective education experience as well as lower the expenses of physical classrooms. Online classes can't replace the experience of actually working with technology but this might be done in extension laboratories closer to the students.

We need to bring down the costs of education in Region 6 and elsewhere in the US. Following are some things that I would like to see Region 6 do to help lower the costs and increase the effectiveness of education in the Region:

- Work with universities in the region to champion and help in the development of on-line education
- Create our own continuing education experiences using on-line tools for society chapter talks as well as workshops and other activities that may be of interest to remote IEEE members—and this access will be one of the benefits of IEEE membership
- Promote IEEE volunteers to help with K-12 education through a variety of organizations in Region 6 (perhaps as PACE and/or Life Member activities)
- Create a education committee within Region 6 composed of University and other IEEE member educators to help us formulate ways in which we can foster cost-effective technical education
- Promote and play a role in STEM education in Region 6

Working with educators in Region 6 we can make our region into an example of how to create cost effective technical education so we continue to attract the best students. We also need a cost effective education system so that our own sons and daughters have an opportunity to make their mark. Creating a sustainable education system in Region 6 continues a long American tradition of making things better for the next generation.