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In the Final Analysis

"How are we to make a case for metals or mining when business schools and IT are attracting the best with big dollars."

— Overhead at a recent conference

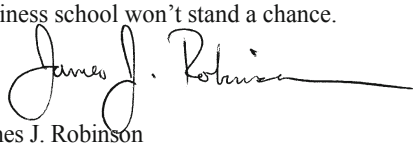
At the recently held Materials Science and Technology 2012 conference, I was invited by David Shifler (TMS Professional Development Director) and Jeffrey LaCombe (Chair of the TMS Education Committee) to sit on a panel during the Anthony Pengidore Memorial Symposium: Industrial Involvement in Academia. Ostensibly, I was invited to participate as I am executive director of TMS and because TMS takes the lead role in developing the test employed by the National Council of Examiners for Engineering and Surveying (NCEES) to register professional metallurgical and materials engineers in the United States. My job on the panel would be to share my "own perspectives on how university graduates are prepared for the demands of the engineering workforce, the education gaps, what your organization does to address the gaps, and what universities can do/need to know." As I thought very highly of the late Tony Pengidore and as I was flattered by the opportunity to join a very prestigious panel and look smart by association, I agreed to participate.

Having made the commitment, I now had the problem of deciding what to say. Did I have something unique to bring to the forum that has not been said many times before by people much more expert and learned than myself? Certainly educators and hiring professionals know much more about engineering workforce matters. I resolved to offer some insight into what TMS does (e.g., we build bridges between the applied and the theoretical, the educators and the employers, the upstream and the down, and the triumvirate of academia, industry, and government). Such messages would be worth including, but I thought that I could provide something more. But what?

I got a clue while attending a plenary lecture at the annual meeting of the Metallurgical Society of the Canadian Institute of Mining, Metallurgy, and Petroleum (the Conference of Metallurgists 2012). Here, I heard the uppermost question put to one of the speakers. In one of those rare ah-ha moments, I realized that the answer was more or less playing out in my own household.

Without getting into too much bore-you-to-tears personal information, my younger son, a junior in high school, is wrestling with what major to pursue in college. He has narrowed the field to three topics: engineering (because he is great in math and chemistry and generically likes to assemble things), communication (because he is a wonderful writer and outrageously clever), or business (because he thinks that it will give him a chance to do impactful things). While I can't pretend to know the mind of a teenager, even if that teenager is my own son, my sense is that he would like to make a reasonable living and, most importantly, affect the world in a positive fashion. While we've not yet visited any engineering schools, we have done some touring of business and communication schools. I find that the business folks really, really know how to present themselves. They don't talk about balance sheets, they talk about mission; they don't discuss resource management tactics, they discuss business ethics; they don't mention tax theory, they reference environmental responsibility. The bottom line in business, it seems, is play a big part in making the world a better place. It might be rhetoric, but it is effective rhetoric. Heck, I want to enroll myself.

So, what advice can I give concerning our field's workforce development? Just this, really: the value proposition in science and engineering education is not the salary, it's the sustainability and the creation of solutions. If we effectively advance this argument, business school won't stand a chance.



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