Reverse Bias
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"Industry Engineers are vocational." These are the words that introduced me to the long standing battle of the biases between engineers in academia versus engineers in industry.

The response came quickly, "We real engineers consider ourselves professionals that are solving real world problems. Of course, you know the saying, those who can't do, teach."

As a witness to this battle, I was now holding back the laughter. I'd like to meet anyone who has ever gone through an undergraduate program without encountering a Ph.D. that couldn't teach their way out of a paper bag. Note, having a Ph.D. is not a necessary and sufficient condition for being a decent teacher.

My second thought was, "Would you ever go to a doctor that never saw a live patient? Then, why would we not want our engineers to have industry experience putting the theory into practice for the benefit of society?"

I'm considered quite an anomaly in the academic world because I came from industry to the university. Of course, showing up on campus in a pink suit and matching high heel shoes didn't help me blend in either. Nevertheless, I have always continued working with industry and cannot imagine myself working any other way. If I didn't have a real client application to target my research, I honestly think I would be bored. I also think the students in my lab wouldn't be the most sought after graduating students on the campus. Their experience working with our industry collaborators makes them ready to jump in on projects as immediate technical contributors upon graduation.

When interviewing for one of my industry consulting positions, I recall the manager setting the expectations very clearly. He said, "We expect that when you are done, you will deliver a working product and not some useless publication."

This perception from the industry side considers academics as students who never leave the comforts of school and work in a vacuum. As an aside, I love to vacuum, not work in one, yet more proof that I am a walking anomaly.

Industry complaining to universities that students don't get enough "training" in valuable skills that can allow them to be immediate technical contributors. Universities fight back that skills are not "scholarly", and that students are learning to be innovative critical thinkers.

Oh really? How can that be possible when the people teaching them have never been outside the safety of the walls of academia and have no idea what it's like out there in the real world?

One Professor responded, "Why do you keep saying we don't live in the real world?" The response, "Because in the real world, you can be fired from your job, and you actually worry about economic downturns."

At this point, I am ready to send the two sides into a dark room with rusty saws to fight it out.

How can one side live without the other? Industry needs fresh new perspectives that young engineers have to offer, while the Universities need industry to help provide relevant experiences outside the classroom that exercise and strengthen everything that students learn from lectures, laboratory assignments and team projects. Why is the concept of creating a synergistic relationship that is mutually beneficial for academia and industry so difficult for some people to grasp? Maybe because some faculty members need to take those internships themselves and see what is really going on in industry. Maybe we need to get the industry people into the classrooms teaching and sharing their experiences with our young people.

Good news, it is actually happening! IEEE industry engineers are among some of our local institutions basic assets as adjunct instructors and campus research labs are now working hand in hand on industry funded campus projects. Guess what? No one has caught cooties for walking on both sides of industry and academia!

IEEE has helped academia by getting students to take on real world challenges. Most recently, one of our own Boston student members won the "People's Choice Award" in the IEEE President's humanitarian challenge. I find it inspiring that this young man has touched millions of lives with his innovative work. He had to work with doctors, politicians, and social organizations to accomplish a feat that governments have failed to overcome. He knew no limits and worked around red-tape that most others would have run away from. He has made all of us at IEEE very proud and we should be very proud of his mentors and academic advisor for encouraging him.

His advisor got it right and has learned to reverse the biases. Teach the engineering, get students to think outside the box, collaborate with industry, and change the world. Yes, his advisor definitely walks on both sides of academia and industry. What is more is his advisor does it all in heels.