

The Noblest Profession

Arthur T. Johnson

Published in the ASEE Biomedical Engineering Newsletter, Fall 2012.

As an engineer who is proud of my profession, one of my favorite quotes is from Herbert Hoover, himself educated as a civil engineer:

It is a great profession. There is the fascination of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves to realization in stone or metal or energy. Then it brings jobs and homes to men. Then it elevates the standards of living and adds to the comforts of life. That is the engineer's high privilege.

The great liability of the engineer compared to men of other professions is that his works are out in the open where all can see them. His acts, step by step, are in hard substance. He cannot bury his mistakes in the grave like the doctors. He cannot argue them into thin air or blame the judge like the lawyers. He cannot, like the politicians, screen his shortcomings by blaming his opponents and hope the people will forget. The engineer simply cannot deny he did it. If his works do not work, he is damned.

On the other hand, unlike the doctor, his is not a life among the weak. Unlike the soldier, destruction is not his purpose. Unlike the lawyer, quarrels are not his daily bread. To the engineer falls the job of clothing the bare bones of science with life, comfort, and hope. No doubt as the years go by people forget what engineer did it, even if they ever knew. Or some politician puts his name on it. Or they credit it to some promoter who used other people's money. But the engineer himself looks back at the unending stream of goodness which flows from his successes with satisfaction that few professions may know. And the verdict of his fellow professional is all the accolade he wants.

I have used this quote in several of my books and read it every year to my students in my Transport Process Design course. All too often we forget to express to our students the pride that comes with the positive accomplishments made by engineers, and how lucky they are to have chosen a college course of study leading to a profession associated with problem-solving, creativity, and good works. After my one lecture on ethics and professionalism, students have come to me and commented how appreciative they were that one of their professors had talked of such things. These comments reminded me of how much I was moved while myself a student at Cornell University by one of my teachers who repeatedly told his classes how privileged they all were to have a degree in engineering from that great university.

But, as proud I am of engineering, I am more proud of being a teacher. Teaching, I am convinced, is the noblest profession. Teachers of all kinds and at all levels impart knowledge and ability to their students. A great teacher influences her or his students in innumerable ways, all positive. That same teacher can be one of the most influential people in a student's life, and that influence can last a lifetime. There is not much in a negative way that can be said about teaching; even the worst of teachers can have good outcomes; there is hardly anyone who can't learn something that a teacher tries to teach.

The result of teaching is that the student is better able to be a valuable and productive citizen. The student learns how to channel energy and creativity in acceptable ways. The student learns how to become an individual who can make her or his way in this world, not becoming a burden on others, but contributing in some measure to the needs of society.

Who else but a teacher has the nearly unfettered opportunity to urge young people to accomplish great things with their lives? To make a difference because they were here? To change history for the better? To become the best that they can possibly be? Teachers are in a position to influence entire generations of great scientists, engineers, humanitarians, poets, lawyers, politicians, artists, parents, and even the next generation of teachers. Teachers can urge and inspire, enable and encourage, and stimulate creative and imaginative endeavors. What could be a better lot in life than this?

We have all had teachers who we remember fondly for the positive influences that they had on our lives. We remember the teachers who were tough, but fair. We remember the teachers who knew their materials amazingly well. We remember the teachers who were interested in us as individuals, despite the fact that we acted so immature at times. Good teachers are like that: they are competent at teaching, they like their students and get to know them as individuals; they are less interested in showing off how much they know than in seeing to it that we learn what we are supposed to; they are interesting to listen to, both in and out of class; they are open to learn, as well, from their students; they earn respect rather than obsess about popularity; they treat everyone fairly and equally; and they challenge each and every student to perform at the highest level to which they are capable. Good teachers are gems, and not to be taken for granted.

Many of us in college teaching also engage in research activities. We must write proposals, manage money and lab activities, publish papers, and, perhaps, even find important breakthrough results that can change the course of technology. But, as important and engaging as research is, and as much importance is attributed to research by our administrations, the most influence most of us will have in our careers, the greatest accomplishments that we will ever see, is in the students who have learned valuable lessons from us and, in turn, will pass these on to others. As teachers, our high privilege is not the things we produce, but the people who are better because of our efforts, and the investments we have made in their futures.