

Editorial

This issue (34-5) has two sections. The first is a special issue on Guiding Engineering Educators: Keeping Pace with Scientific-Technological Change and Socio-Economic Development. It was guest edited by professor Jose Luis Martin Nuñez—Instituto de Ciencias de la Educación, Universidad Politécnica de Madrid, Spain and professor Andres Diaz Lantada—Escuela Técnica Superior de Ingenieros Industriales, Universidad Politécnica de Madrid, Spain. I am grateful to them for suggesting the topic and for the time and expertise they invested in guest-editing the special issue.

The second section has papers addressing various topics including: Learning Outcomes, Innovations, Faculty Development, Faculty Attitudes, Self Efficacy, Transfer Students, Virtual Teams, Team Based Learning, Project Based Learning, and Biomedical Engineering. The authors are from: USA, Argentina, Italy, Spain, Uganda, Sweden, and Estonia

I wish to thank all authors for their valuable contributions and I hope the readers find both sections of this issue to be interesting and useful.

In his Reflections published in the Summer 2018 edition of ASEE Prism, Prof. Henry Petroski wonders: Why does media stardom elude our discipline? He also muses about the disparity between public adulation of scientists and virtual ignorance of engineers. Are engineers too humble? Could engineering educators do something about this? Prof. Petroski suggests that we can find a happy medium between producing overly humble engineers and overly confident scientists. I find these reflections to be very thoughtful and inspire further reflections.

Although engineering encompasses many areas; it is still a subset of science. To many people the boundary between science and engineering is blurred. For example, a genre of popular books, magazines, and movies is referred to as science fiction, there is no such thing as engineering fiction. However, a closer look to the subject matter of many of them reveals it addresses the subset of engineering. It seems that the descriptor science is used to oppose what is not science-related.

Are engineers humble? If a study is to be conducted to answer the question I think the answer would be: some are and some are not! The same would apply to scientists. Can engineering professors address the possibility of engineers being overly-humble? Perhaps they could, by example. Then, one may ask are professors themselves perceived to be humble? Again, I would suggest that some are and some are not. It is relevant to the question of humility whether their education institutions treat them with respect and reverence or project that they are a hindrance to administrators. This would have an impact on their attitude and students' perception.

On the other hand, engineering is definitely recognized by the public in subtle ways. Aside from legal complications, many people without formal engineering education would like to be called engineers and some are called so. Even in the every-day language the phrase *to engineer something* implies to design and cause something to happen. Writers were once praised (by Joseph Stalin) as *the engineers of the human souls*. A famous advertisement, at least in Canada, for a certain brand of cars uses the phrase *German Engineering*; in a subtle way this indicates that engineering is important to consumers. The phrase social engineering, although it may have varied meanings, implies some sort of clever design. Just to give an air of superiority, the terms engineer and engineering are abused by some who use phrases such as hair engineering and similar ones. It seems that engineering in the collective thinking of the society is about making well thought-out things that are designed based on careful calculations.

In most situations, however, it is good for a person (engineers and scientists included) to be humble and assertive rather than arrogant and egotistical, knowledgeable and doubtful rather than ignorant and self-confident. An engineer could serve society well with knowledge and practice. Good engineering work and good teaching goes directly to the heart in an indescribable way; the engineer and the engineering educator do not have to be an accomplished actor, a funny comedian, or a devious politician to be appreciated by those who count; accumulating wealth is a different story.

Ahmad Ibrahim