

# Editorial

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This year marks the end of the first decade of the century and the beginning of another, bringing with it both new and old challenges for Engineering Education. Engineering educators have been devoting so much effort in order to cope with the changing social, economical, and political realities. It is important not only to maintain the quality of engineering education, but also to improve its various aspects, including the image of engineering in the eyes of the public and decision makers. It is unfortunate that engineering education research and development remains less valued by some education institutions as compared to technical areas that could lead to more substantial research funding. Some institutions, in their hiring practices and reward systems, consider the ability to bring funds to the school to be paramount. The current economic situation did not help change that approach.

One important challenge and question is whether we are now graduating better engineers than decades ago. How would we know? Some would suggest that indeed we do, while others would disagree; both groups are perhaps partially right. It is a challenge to agree on what is meant by a good engineer. Not only that, but it could be challenging to get people to simply agree upon what defines engineering. The public, including future potential students, is not concerned about formal or abstract definitions of the profession as put forward by various organizations. They need to develop an understanding and a feel for what exactly engineering is.

Confusing engineering education with vocational training does not help the image of the profession. Some decision makers consider “meeting current work-force needs” or “mass-production of graduates at a reduced cost” to be the criteria by which engineering education is to be evaluated for funding. Of course, engineering education has to be relevant to current and future markets, but this has to be done in a thoughtful way.

Another challenge is our desire to graduate well-rounded engineers; hence non-technical courses became an integral part of the curriculum. However, the concept of well-rounded engineers seems to exclude Mathematics. The trend appears to be reducing the mathematical content of technical courses to a minimum. One would think that more knowledge of Mathematics could help to make a better well-rounded engineer; it could help the cause of continuous education as opposed to continuous schooling.

Another difficulty that has gained publicity in both academic and popular media is the perception of increased cheating by students. The official reaction usually involves establishing some sort of detective work and punishment procedures. It would be useful to ask ourselves why students are tempted to cheat; it could be that we are doing something wrong. Are we providing students with sufficient care? Are schools perceived to put students’ best interest behind saving money? Would solving the problem of grade and degree inflation help restore the value of education in the eyes of the students? Further, even before the current economic problems, some institutions started to modify the teaching environment in order to reduce cost. This included the outsourcing of teaching: instead of having a commitment to a teaching faculty; courses are taught by individuals on contract basis.

We need to stay optimistic and work toward a better future.

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