

Editorial

The current issue (37-2) has contributions by authors from institutions in Brazil, Chile, China, Hong Kong, Iceland, Iraq, Israel, Japan, Kuwait, Nigeria, Saudi Arabia, Serbia, Slovenia, South Africa, Spain, and USA.

The topics addressed include: Project Based Learning, Service Learning, Leadership, Self-Efficacy, Employability Skills, Gender, Graduate Studies, Flipped Learning, International Experiences, Evaluation, Active Learning, Team Performance, First Year Students, Study and Research Paths, Innovation, Student Dropout, Selection of Engineering Discipline, African Americans, Resilience, Design-Based Learning, Systems Thinking, Civil Engineering, Electronic Technology, Programming, Strength of Materials, Thermodynamics, Math and Physics, and Computer Science.

I hope readers will find the papers in this issue interesting, useful, and lead to some useful thinking.

Thinking is of a particular importance in engineering; the IJEE has published special issues in addition to numerous papers in regular issues related to this topic. There are numerous descriptors associated with thinking as used in everyday interactions and in some specific fields such as engineering, science, and education, with precise definitions. For example, a particular mode of thinking could be described as: Abstract, Analytical, Conceptual, Creative, Critical, Design, Engineering, Ethical, Mathematical, Perceptual, Political, Practical, Reflective, Scientific, Strategic, Systems, and Systems Engineering.

With training and practice, high level thinking skills could become second nature to engineering students and graduates. They may even think productively without being cognizant of the adjective associated with their mode of thinking or the degree of overlap among the various types.

It is important to be aware that some dictionary definitions could mislead students and others to equate thinking with opinion. Useful opinions require thinking and fruitful thinking requires sound knowledge and data. However, *“Too often we enjoy the comfort of opinion without the discomfort of thought”* (attributed to John F. Kennedy). Engineering students need to be guided to realize that they are expected to have competence in all levels of thinking and to engage in various types of useful thinking; they need to be discouraged from expressing opinions that are not based on thinking.

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