

Editorial

Reflecting upon the archival material published in the tiny group of journals devoted to engineering education, the question always crops up in my mind about what type of papers are published and how can we categorize them—and what may be missing and is largely excluded from these publications but should really be included. Some established and comprehensively worked on areas are well represented, highlighted in this issue by the assessment area. Pioneered by ABET this area of interest and activity has spread from initial USA predominance to an increasing international activity and participation. Assessment is related to education research and best practice. ABET guidelines prompt engineering academics to explore ways and means to streamline and develop the process for their institutions. This follows from the fact that assessment is an accepted important quality benchmark combined with constraints on achieving accredited status by an accepted evaluation body.

Such evaluation bodies are being emulated in other parts of the world, either by national assessment and accreditation bodies, or by subjecting assessment to ABET (or the Canadian Engineers Canada)—as is quite common for Middle Eastern universities. Countries with a substantial number of engineering education universities have their own national bodies—as for example Germany. Indeed, national pride in the quality of education spurns the establishment of such localised bodies (As one German minister of education told me ‘we want a ‘Mercedes’ type of accreditation body’). But ABET is still the benchmark source for assessment and accreditation. These activities are in the main ‘best practice’ activities which need to be streamlined to be more effective, and consequently generate research and development, and archival papers. Moreover they are subsets of general education research and development activities also applicable in areas outside engineering education.

There are more examples of common areas of publications in problem-based and active learning, distance education and instructional technologies. These may not be entirely unique to engineering education. What I am trying to look for are more specific archival publications of education research applied to engineering education practice. The research may stem from engineering developments and also from education research. We are still looking for many more of these. Examples of what I mean by this type of publication are ‘A Design Methodology for Choosing an Optimal Pedagogy: The Pedagogy Decision Matrix’ by Malicky, Lord and Huang (*Int. J. Eng. Ed.* **23**, 325–337, 2007). In this paper a borrowed scheme of a decision matrix from engineering design is applied to determine the optimal combination of an educational scheme for a particular engineering course, i.e. what combination of collaborative, project based or subject based learning is optimal for Statics or Design courses. A further example is the paper by Lagoudas, Whitcomb and Miller ‘Continuum Mechanics in a Restructured Engineering Undergraduate Curriculum’ (*Int. J. Eng. Ed.* **16**, 301–314, 2000). This paper approaches curriculum reform in undergraduate engineering conforming to a well established education paradigm—the Kolb learning cycle. Another example is the exploration of student outcomes in engineering courses based on fuzzy logic procedures by Wald and Soltysiak (*Int. J. Eng. Ed.* **10**, 496–501, 1994). It would be good to see engineering education publications picking up some research results from engineering and education fields and applying them to engineering education development. We are indeed planning a special issue to further this cause in the near future.

It remains for me to express my sincere thanks—in addition to my appreciation and admiration—to Gloria Rogers who is the indefatigable and unsurpassed assessment promoter and expert.

Gloria selected and refereed the papers in the special part of this issue. There will be a second instalment of assessment papers in a forthcoming issue.

Michael Wald