

---

## Guest Editorial

---

John Daniel

Vice-Chancellor, The Open University, Milton Keynes, England, UK

I congratulate the international community of educators and employers of engineers for getting together with governments to create the International Association for Continuing Engineering Education. UNESCO and the Government of Finland are to be commended for their support of the initiative, and I particularly welcome the Association's decision to launch this journal.

Many international associations have found that the publication of a good journal is the most important of their activities, not only in maintaining the association's profile between conferences but also in bringing important information to an audience extending well beyond the membership.

Global thinking and lifelong learning are important precepts in today's shrinking and changing world. However, simple repetition of these slogans does not change people's habits. Their national jurisdiction is the main frame of reference for most professionals, and the idea that formal education is for the young is still deeply rooted.

Being international in nature the *International Journal for Continuing Engineering Education* (IJCEE) will alert its readers to initiatives and policies in other countries. For example, some observers have attributed Japan's industrial and economic success to its being a "learning society" that attaches real importance to lifelong training. In this issue a paper from Japan examines the relationship between education, training and product quality; a second paper planned for the next issue will describe the challenge of expanding the continuing education of the workforce of Japan's small firms.

By focusing on Continuing Engineering Education, IJCEE will stress the distinct organizational and instructional requirements of continuing education. In a paper appraising the future of US universities, Schmitt predicts that a greater proportion of their activities will be devoted to continuing education and that this will involve greater use of communications technology in teaching. Indeed, busy working people expect our teaching to be both convenient and efficient. Writing from experience in the UK, Sparkes urges us to look not only at methods of instructional delivery, but also at the application of some of the principles of product engineering to our educational offerings.

Several trends are giving Continuing Engineering Education much greater importance. The first is the pace of change. The countries of eastern Europe, where engineers are suddenly faced with a drastic change in the fundamental economic principle underpinning their activities as well as the demand to cease degrading the natural environment, are simply an extreme example of the pace of change. Neither in the eastern bloc nor elsewhere can countries wait for a new generation of engineers to be trained before responding to the challenges. It is the engineers already in the workforce who must add to their repertoire the new knowledge now required. Thus continuing education is called an "the only way to survive" by an author from the USA. Writing from Korea, Seung-Yo Son explores the continuing education needs of a society whose industrial base is in rapid evolution.

A second trend, in most of the industrialized countries, is a drop in the number of young people entering the labour force. Faced with a shortage of graduates, employers will have to make better use of the technical staff they already have — which means being more systematic about keeping them current.

Ironically, developing countries have the opposite problem: huge numbers of young people but few resources for educating and training them.

The answer to both problems is in fact the same, namely to be more efficient about the way training is done, which often means incorporating training into the job itself. Thus another paper from the USA (forthcoming) talks about “embedding” training in application software so that people have to spend less time away from their job learning how to do it.

New technology can enhance productivity in education just as it does in manufacturing. Pudlowski examines the uses of computer-assisted instruction and Clump and Basseches describe the increasing use of interactive video systems to link university and industry in the USA in order to facilitate the updating of engineers.

A common complaint about the current provision of continuing education opportunities is that from the user's point of view the whole is less than the sum of the parts. This results from poor coordination and inadequate publicity. A paper from Canada describes how a particular university has tried to change this state of affairs by responding in a coherent and planned fashion to the many demands placed upon it.

Finally, large gains in efficiency can be made by conceiving continuing education more as an industrial process and less as a cottage industry. In this vein a group in Arizona describes the production of a course on the Critical Path Method that can be implemented readily at different sites. All over the world an increasing number of institutions, such as the Open University in the UK, are using the techniques of distance education to make courses available to working people where and when they want them.

I am sure that the appearance of the IJCEE will contribute to the international movement of ideas and courses. Fortunately, the growing demand for Continuing Engineering Education is promoting freer trade in instructional materials and technology. This will be to the direct benefit of the engineering profession and, indirectly, will bring advantages to humankind in general.

**Biographical notes:** Dr John Daniel was recently appointed Vice Chancellor of the UK's Open University, effective July 1990. He has been closely involved with international developments in distance education for many years. He is a past president of the International Council for Distance Education and chaired the planning group which laid the groundwork for the Commonwealth of Learning, the Commonwealth's new distance education network. After secondary schooling at Christ's Hospital, he graduated from Oxford with first class honours in metallurgy in 1965. Research work at the University of Paris earned him a Doctorat d'Etat, and he began his academic career at the Ecole Polytechnique, University of Montreal, in 1969. He was Directeur des Etudes at the Télé-Université of the University of Quebec from 1973–77 and Vice-President of Athabasca University from 1978–80. In 1980 he moved to Montreal as Vice-Rector, Academic of Concordia University. In recognition of his work in promoting the French language and culture in Canada, he was made a Chevalier de l'Ordre des Palmes Académiques in 1986.