

Engineering education: a multidisciplinary approach needed *7th Aug 2000 Daily News*

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The Institution of Engineers, Sri Lanka is one of the oldest and most active professional organizations in the country. Over the years your Institution has contributed immensely towards the advancement of Science and practice of engineering. This involved the training and conduct of examinations for professional development in the field of engineering, provision of advice, dissemination of knowledge in the various fields of engineering etc.

I am aware that your Institution is deeply interested in maintaining the highest standard of the profession of engineering as well as the engineering education and training in the country.

The whole system of education is undergoing a change at present with the implementation of educational reforms at all levels - which includes tertiary level, ie. undergraduate university education and also at the quaternary level ie. postgraduate education. Engineering and technology education, like any

other field, needs a change, a re-orientation to satisfy current and future national needs. Traditional engineering disciplines are civil, mechanical and electrical. The demand for traditional engineering disciplines is becoming less and less and the new interdisciplinary fields are emerging fast, which are market oriented. They have a great demand at present. These fields are interdisciplinary in character within the broad areas of basic sciences, engineering, and technology. The boundaries of various traditional disciplines are fast disappearing with the interdisciplinary approach to suit the present-day needs. In such a scenario can we sustain such traditional discipline boundaries? This is a dilemma and a challenge before us in this new era - in this new millennium.

Some of the emerging and fast developing new fields of great importance with enormous potential are the Information Technology, Electronics and Instrumentation, Bio-medical Engineering, Biotechnology, Materials Engineering/Science and Technology which are all interdisciplinary in nature. There are many other emerging new multidisciplinary fields. These fields are making a significant impact on the industrial economic and social development in the world today. Therefore, further expansion and diversification of Engineering and technology education should be directed towards rapid development of these disciplines.

This can be achieved even within the existing university system using available resources and expertise. Departmental barriers and faculty barriers should be removed and the cooperation among the expertise in different disciplines should be promoted. Thus, interdisciplinary degree programmes of national importance can be developed through this team-work among professionals. There is enormous potential to develop hundreds of degree programmes of great demand and national significance with inter-faculty cooperation in the existing universities. What is required at the present time is an innovative approach and novel thinking by our professionals and academics towards fulfilling the human resource requirements in the country using the available resources.

In addition, a Professional Organization like yours also has a tremendous potential and can play a dominant role in the expansion and diversification of engineering and technology education in this country. Multidisciplinary nature and market oriented approach are essential factors to be considered in this regard.

The proposed new Universities Act, when implemented would certainly facilitate and promote your involvement in the expansion of re-orientation of engineering and technology education. This would facilitate and accelerate our national development effort. With rapid globalization we also have to move

with the rest of the world. We should be internationally competitive in all fields. Otherwise we will be isolated and we will not be able to survive in the real competitive world today.

In the world today, professional organizations are playing a much wider role in their respective fields. Your institution being the only professional organization of Engineering in Sri Lanka, has a vital and important role to play in the economic development of the country.

The multidisciplinary approach is certainly important in all these efforts. This needs cooperation and team work with other professionals. The team work particularly among scientists, technologists, engineers, planners and economists is absolutely essential for successful development of any country. This is extremely important in today's context where there is an increasing need to have an interdisciplinary approach and to re-orient our programmes to the effects of globalization.

In conclusion, I wish the new batch of professional engineers all the best and good-luck for a successful career. I hope that they will contribute substantially towards the nation building in close cooperation with other professionals in the country.

I have no doubt that the Institution of Engineers of Sri Lanka will grow from strength to strength as an active, effective and productive professional organization in this country.