

Steps to woo students to science

The editorial 'Higher education in science' (*Curr. Sci.*, 2002, **82**, 241–242) touched upon a very pertinent issue that is plaguing the research programmes, especially in terms of quality, in our national laboratories, institutes and universities. As rightly pointed out in the editorial, the science policy makers of our country must take immediate steps in working towards innovative strategies for solving this serious problem. While starting graduate and postgraduate programmes in science subjects in national laboratories and institutes will be a very welcome step, which would give an elitist touch to science studies, one needs to diagnose the root-cause and work for other long-term remedial measures. Lack of interest in pursuing a career in science is more due to economic reasons than anything else in our country. While engineering students get degrees and jobs after a period of four years, science students struggle for five years (or even more, due to delays in exams, declaration of results, etc.) and even after that there is no guaranteed job. Those who are going for

Ph D find it difficult to start their career before the age of thirty.

As a long-term measure, we should have a more uniform education system in all the states throughout the country. The existing degree courses in all branches of science and engineering, should be replaced everywhere with four-year programmes and all degrees like B Tech, B E, B Sc, etc. should be replaced with a uniform Bachelor of Science (BS) degree in all universities and engineering colleges, including the IITs. The first two years of this BS programme could have common courses for all students, engineering or science. In the last two years, they could be allowed and encouraged to take several optional courses of their choice in subjects other than those they major in. In this way, even a student in computer science can take one or more advance level chemistry or physics courses and may even opt for (and be allowed to do) a Ph D in science subjects after completing the BS degree. Similarly, a student in chemistry should have the option to switch over to an engineering stream. Most imp-

ortantly, students will be more mature by the time they complete their BS to decide on their own about their career, with less parental influence or pressure.

Students should be allowed to write NET, GATE or equivalent exams after completing their BS degree and join the Ph D programmes. Institutes like IISc, Bangalore have already introduced such programmes. During the Ph D programmes, students must take minimum specialized course-work related to their areas of research. Ph D dropouts can be given optional MS degrees after completing these courses.

Some of these steps will definitely help to lower the barrier between science and engineering, usher in the much-needed flexibility in our education system and hopefully encourage more students to opt for science streams.

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Science policy and planning in India

Virk¹ has stated that Nirupa Sen² did not cite the role of A. Rahman in the Planning Division of CSIR during the sixties and in promoting science policy as an academic discipline in the universities. Virk is right in expressing that the importance shown to information technology has swept off the role of basic sciences in the university syllabi. I fully endorse his view. It is clear that information science, in fact, any applied science, is a by-product of basic sciences. The existence of information and other allied sciences is an extension of basic sciences. Hence, the role and importance of basic sciences should be duly recognized in any policy and in academic institutions. It is worth quoting here the example of University

of Agricultural Sciences, Bangalore. This university, until recently, had a full-fledged college for basic sciences under 'College of Basic Sciences and Humanities'. Further, till recently the college was laying a good foundation for basic sciences, so that the study of applied sciences was more meaningful and deeper. But recently the university has taken such a step that the college is on the verge of closure. This is a great prejudice shown against study of basic sciences.

Hence, in any scientific policy and planning in our country, including that of the universities and scientific institutions, the role of basic sciences should be given its due importance. In this way the science policy resolution in India is sure

to further science education and research in basic sciences.

1. Virk, H. S., *Curr. Sci.*, 2001, **81**, 1277.
2. Sen, Nirupa, *ibid*, 2001, **80**, 1479–1480.

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