

time to get going. The first Ph D degree in Electronics and Electrical Communication Engineering was awarded only in 1961 and that too to an external candidate.

The dichotomies between 'teaching' and 'research' persist in most IITs to this day, in some form or the other. The idea that teaching is what the faculty is paid to do and research is one's own business may be a hangover from the traditional engineering colleges which supplied most of the directors and faculty for quite some time. At IIT Kharagpur, B. R. Seth of the Mathematics Department played a significant role in guiding and encouraging research in departments such as Civil Engineering. The 'teaching' vs 'research' syndrome emerges from time to time when apportioning teaching load and at the time of promotions. With many of the faculty having foreign degrees and good contacts abroad, a new phenomenon that has emerged is the path of least resistance – do research when abroad and teach when back home. Lack of 'advanced facilities' provides a ready excuse. Evaluation of teaching, whatever its shortcomings, has not been accepted in any of the IITs although this is *de rigueur* in all universities in the USA.

With the emergence of interdisciplinary subjects, the distinction between science and engineering may be expected to diminish. But this is not helped by the outmoded thinking of some faculty who exclude, for example, M Sc Physics graduates of all hues from entry for research into an Electronics Engineering Department. Each director unfortunately

carries his own preconceptions – some want to eliminate all theoreticians from the Physics Department and rename it Applied Physics while others establish irrelevant centres that languish without leadership.

The strong plea made for more emphasis on postgraduate studies and research in IITs deserves support. The mark made by IIT B Techs and their demand in the USA has however prompted some NRI benefactors to demand that postgraduate studies and research be eliminated and export-only products be manufactured! Others have suggested that undergraduate engineering education be left to Regional Engineering Colleges (RECs) who may benefit from the best students. However this is like killing the goose that laid the golden egg. It is not that undergraduate engineering education has been optimized once and for all. On the contrary, it is in a state of constant flux and it is here that IITs should continue to set the pace.

Faculty recruitment is another critical step for ensuring high standards. Here the system lurches shakily depending on the authorities' predilections for 'foreign degrees', be they from unheralded institutions in the far South of the USA, to the plea of 'in-breeding' to destroy research groups which become too successful for the authorities' liking. As has been pointed out, schools of excellence are known to flourish for decades in universities but IITs hardly nurture these, especially if they threaten the director's pre-eminence. In fact often the excesses of one must be first undone by

his successor. No president of a university in the USA holds the power to mould the activities as much as the director of an IIT. This is probably not valid so much for IISc where the reputation of a research group ensures continuity.

The transparent system of entrance (JEE) has maintained the standard of the IITs and the relatively less political interference (compared with state universities) has kept their reputation high. Each IIT has maintained its individuality which is desirable, but there is the fear of them becoming increasingly regional. Surprisingly there is little or no faculty interchange between different IITs in spite of official encouragement from time to time. While it is heartening that the alumni have become active in gathering funds for their alma mater, increased involvement with industry through the alumni would be even more desirable. Fifty years is not a very long period in the history of an institution and it is to be hoped that premature senescence that plagues other academic institutions in the country can be warded off for the IITs.

1. Balaram, P., *Curr. Sci.*, 2003, **84**, 613–614.

D. N. BOSE

USIC,
Calcutta University,
Kolkata 700 009, India
e-mail: dnbose@vsnl.net

Teaching vs research in Indian universities

A university stands for humanism, for tolerance, for reason, for the adventure of ideas and for the search for truth. It stands for the onward march of the human race toward higher objectives. Universities are places of ideals and idealism. If the universities discharge their duties adequately, then, it is well with the nation and the people.

—Jawaharlal Nehru

We have been reading articles in *Current Science* on the quality of teaching and

research in Indian universities. Universities impart postgraduate education, and conduct and promote research in a variety of disciplines. Being at the apex of the educational pyramid, universities have a key role in producing quality teachers and researchers for the education, science and technology systems. Are universities effective in building a healthy nation and their contributions noteworthy? These are the questions debated often in Indian academic circles today.

When we compare the teachers of postgraduate departments of universities with

those of colleges, there are a lot of differences in work culture. In degree colleges, teaching is only the mandate and pertaining to this, teachers have to improve their knowledge in teaching by undergoing orientation and refresher courses, summer camps, workshops and participating in seminars/symposia from time to time. On the basis of these activities, teachers are considered for promotion to the next cadre. Some college teachers, who are interested in research may conduct research and publish papers. Research activity of college teachers is invariably

out of their natural interest rather than a yardstick for their promotion unlike in universities.

Once a university teacher acquires a Ph D degree, many university teachers lapse into routine teaching assignments.

Because of this type of dual role of teaching and research without defined guidelines, university teachers can neglect either teaching or research, or sometimes both. In Indian universities, teachers are promoted based on their research publications, books written, papers presented in seminars/symposia, membership of various academic societies, etc., but much importance has not been given to the teachers' contributions towards teaching.

This type of situation in our universities tempts many teachers to neglect teaching and take up some sort of research mostly uneconomical, unproductive, outdated and repetitive type and venture into the business of publishing substandard research articles. The system normally recognizes quantity like number of Ph D

students guided, number of papers published, etc. rather than quality of the research and publications.

Unfortunately, no concrete method has been developed so far to judge the teaching and research aptitude of university teachers. Some academicians argue that both teaching and research cannot be done at the same point of time. However, it is generally thought that education (even from undergraduate level) and research should coexist to complement each other. It is true that most of the breakthroughs have come from university settings abroad, in which teaching and research are intertwined.

It is high time that academicians and researchers should debate at the national level to find solutions to strengthen the quality of teaching and research in Indian universities. If university teachers are allowed to have only research projects that are approved by national level scientific committees and under such projects, only students who have the right aptitude

for research are permitted to register for Ph D, it may help in improving the standard of research.

Special emphasis on assessment-oriented teaching and research will impart a new dimension to the role of the teacher. The objective of integral development of personality in the younger generation cannot be achieved without teachers developing their own integral personality. In this context, it is apt to remember the words of Rabindra Nath Tagore: 'The highest education is that which does not merely give us information but makes our life in harmony with all existence'.

M. G. VENKATESHA

*Department of Zoology,
Bangalore University,
Jnanabharathi,
Bangalore 560 056, India
e-mail: mgvenky@eth.net*

Viviparity in reptiles

There was an error in reporting the findings on the lizard, under the section 'In this issue' written by S. Ganguli¹. However, the studies on the lizard provide an insight as to how the evolution of viviparity might have evolved among reptiles, in general. Hence, the last statement in

the said section should be read as 'evolution of viviparity in reptiles' instead of 'evolution of viviparity in garden lizard'.

1. Ganguli, S., *Curr. Sci.*, 2003, **84**, 612.

BHAGYASHRI A. SHANBHAG

*Department of Zoology,
Karnatak University,
Dharwad 580 003, India
e-mail:
bhagyashri_shanbhag@hotmail.com*

Contract teaching: Is permanence the cause of academic woes?

This is regarding the editorial 'Academic appointments: Contracts and tenure'¹ and letter by Tripathi². The fact that the UGC is contemplating a drastic change in the mode of appointment of teachers in the universities and colleges is an acceptance that there is something seriously wrong with the present system. It is heartening to know that the UGC is planning to do something about it.

How the UGC has come to the conclusion, that making academic appointments on contract basis (otherwise adding an element of impermanence to these

appointments) can cure the ills plaguing the system, is not known. Has the UGC undertaken an in-depth analysis of what is wrong with the present system, and come to a definite conclusion that granting permanence to an appointment (after an initial 'probation' period) is the only (or at least the main) reason for the steady decline in the quality of teaching and research in our universities and colleges? Deciding to make the academic appointments contractual, to solve the problem of declining standards of teaching and research would, in other words,

mean that, in spite of having a system of selecting the most meritorious candidates for teaching positions, and maintaining an atmosphere for fostering and adequately rewarding excellence, a vast majority of our academics are not performing well. I do not think that is the case.

The problems of higher education system in the country are many and need a detailed study by experts. This sort of 'quick-fix' solutions to the problems is not going to solve the problems. In fact it will only add to the problems and