

Contractual teachings

The UGC's proposal for contractual jobs for university and college teachers apparently sounds quite appealing but the question arises: will it be successful in the present scenario of higher education in India? In India colleges are primarily the centers for graduate studies and the universities for higher learning and research. The appointments in these institutions were made on the basis of advertisements in national newspapers. With advent of time, the practice of inbreeding percolated in these institutions. The concern for the same appeared in media long ago but remained unnoticed by the policy makers of higher education. In most of the universities the procedures of open selection were jeopardized on account of piling up of temporary and ad hoc staff. If there were regular appointments, the problem of ad hocism would not have arisen.

UGC's apprehension 'permanent nature of teaching jobs in the universities and colleges has resulted in complacency' is true for all jobs of permanent nature. The root cause of complacency in teaching jobs is lack of innovation in teaching methods and not the permanent nature of jobs. The teaching methods remain the same, i.e. oral lecture delivery with presentation on blackboard by chalk and duster. The LCD or video projectors, which should have replaced the blackboard, are only seen at national or international seminars. Treatment for complacency by the pills of contractual jobs will distract brilliant students from joining university services and further aggravate the malady.

UGC's proposal of contractual teaching in universities and colleges is not a remedy of the present ailment. There are

many options which should be tried before adopting the concept of contractual jobs, like updating the recruitment system, inculcating accountability and professionalism, innovation in teaching methods, continuous monitoring of teaching quality, etc. Lest the hectic and unconceived steps of educational reforms make the centers of higher education guinea pigs, the steps must be judged thoroughly through national debate.

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School curricula should nurture basic sciences

School curricula have been a hot topic of discussion by different groups at various levels. Newer topics in school curricula are included after good deal of debate and discussion. There have been many proposals by subjects experts who argue for inclusion of subjects in the area of their expertise. It is a difficult task for members of a committee to either accept or reject any proposal. I strongly feel that due attention has not been paid at the national level. In-depth discussion invariably does not take place and modifications in syllabi are made without adequate discussion.

One proposal for inclusion of geo-science in school curriculum has just appeared¹. Kaur and Chaudhari have adequately argued their case for inclusion of geo-science in school curriculum and have pointed out the need for an orientation course for teachers. The authors have received appreciation for their efforts. Geology in one of the optional subjects at the higher secondary school level. Regarding geo-sciences, it is important to note that even school students did not support relevance of geo-science

topics in school curricula. It is unfortunate that the authors, fully aware of various constraints, have endorsed introduction of geo-science stream in school curricula. Once the educational system succumbs to such isolated and individual arguments, many more suggestions would be forthcoming and it would be difficult to entertain them in future. The choice of school syllabi and effective schooling is one of the most important tasks to be treated as a purely academic one beyond any kind of direct or indirect political involvement or influence. The associated problem of such missions is of textbook preparations. The mission of schooling is to create a thought-provoking base using the elements of critical thought process. Science has grown primarily on thought processes based on keen observations under restricted conditions. The restricting conditions were imposed primarily for sake of simplification that invariably eased the observation and its interpretation. The most popularly cited case is standing of Ohm's law that is known to become highly complex by relaxing the restricting conditions on temperature,

pressure, externally imposed electric field, magnetic field and their directions with respect to the direction of flow of electric current in conductors.

The content of schooling up to XII grade necessarily has to be restricted to core sciences, namely chemistry, physics, mathematics, biological sciences along with good base of language(s). The course content and their application should be carefully chosen to expose the learners by way of giving various examples and setting home assignments for students. Teachers should conclude scientific topics by giving examples of up-to-date discoveries encompassing the topics of discussion in the case. Apart from some of these courses required for the degree, one has to learn many subsidiary subjects that become necessary for carrying out higher studies in a particular area. The requirement of strong background for carrying out research work in a particular subject is essential and varies significantly from one subject to another.

A comparatively strong case is of knowing the rich background of our an-

cient scientific heritage. Any effort even to introduce such details in school syllabi should not be encouraged. However, it is important to work out available details from our scripts and make some of these available to modern scientists. Some of these materials can be introduced as relevant examples wherever adequate. There are well-known examples of our rich scientific and cultural heritage. One of the most important issues is development of Ayurvedic medicine and its importance is becoming competitive to modern medicine. This has become an

eye opener and tells us that we should give due importance to our past achievements in an organized and systematic manner.

In Indian conditions, science teaching is not properly organized. The content of school books should continuously be updated for developing broader base of school children and motivating them to go a step further and turn the pages of reporting journals *Nature* and *Science*. For developing such a motivation, it is essential that the school teachers be continuously exposed to newer develop-

ments in different fields of science. It is unfortunate that such a motivation is rarely provided for school teachers within the country.

1. Kaur and Chaudhari, *Science*, 2003, 618.

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Need for scientists to be more vocal

Aruna Dhathatreyan's article¹ is too mild to exhort the scientists to be more vocal in the interests of world peace and human welfare. The grand total effect of 250 years of modern science had pushed the world to the edge of a disastrous biochemical-nuclear war and the scientists maintain studied silence as if they were a third party with no allegiance to the cause or effect. It is not the 'detachment of scientists from general human affairs' as Aruna thinks it to be, that led to this reticence but pure self-preservation tendency that cautions them from being 'vocal' which otherwise might commit them to social and political implications. It is good if scientists are non-political but they cannot afford to be apolitical or non-human in their findings and inventions. Factors like peace, poverty and development are determined by scientific progress as much as the deviant activity of mafia gangs, underworld goons and international criminals. The philosophy of science has incorporated the facts of social justice and social injustice too. The ethical blindness of science is shadowing the marvels of its human welfare activity like medicine, surgery, vehicular movement and gadgets of happiness. The egalitarian trends of science like non-racial, non-regional, non-subjective atti-

tudes and destruction of the tenets of caste and creed by revealing universal human physiology are overpowered by vested socio-political groups turning out genocidal weaponry with science and technology in the name of *X*, *Y* or *Z* factors which suits them for the occasion. And science finally would be blamed as the 'rogue' that destroyed beautiful nature and humanity at large. The role of scientists is not merely an explanatory tone of the implications of the inventions of weapons or non-weapons, but shall be a philosophical appeal to political bosses to desist from misusing science.

Scientists have a greater role to play when the societies are opting for 'knowledge states' with accumulation of reason, rationale and relative happiness instead of 'nation states' which are made up of religion, language and cultural tradition. This crucial transition, already set-in, is gaining pace all through the world. Scientists need to explain to the social groups and political sections of the incipient transformation which makes the countries better places for human dwelling with higher stages of civilized living. They have to assert that misuse and abuse of scientific discoveries impede the very progress of science. The scientists in groups have to develop 'common

amplified volume' of their voice in denigrating political misuse of scientific and technological discoveries. The reticence of the scientific community, as Aruna complains, out of vested interest or infested disinterest, shall surely turn out to be dangerous to humanity at large as non-scientific blockheads will be riding the tigers. Really the world at large is ignorant of the alleged hazardous biochemical weapons piled up by the Iraqi 'despot' and wanted to be destroyed by the American 'democrat'. Scientific community serving the bosses on either side is tight-lipped for obvious reasons. The rest of the community at least, could have spoken of the dangers of the Blast-Baghdad horror movie.

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1. Aruna Dhathatreyan, *Curr. Sci.*, 2003, **84**, 1282.
 2. Kosambi, D. D., *Science, Society and Peace*, Academy of Political and Social Studies, Pune, 1986.
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