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EDITORIAL

Make Indian universities as centres of research and innovation

A university is much more than an institution that grants degrees and diplomas. It is a part of the society where creation of knowledge, incubation of new ideas, innovations and critical thinking are to be nurtured. High quality universities provide right environment where transformation of students to great scientists, engineers, social thinkers and administrators take place. Innovations that result in new processes and products are often made in laboratories of universities in most of the developed countries, thus helping industries to gain an edge over their competition. In a nutshell, progress of a society can be gauged from the robustness of universities which transform the youth into future leaders, researchers and teachers.

A large section of youth of India, particularly from poorer sections of the society and rural background get immensely benefited through higher education provided by the state-funded universities and colleges. A number of eminent persons who have made remarkable contributions, such as C. V. Raman, Har Gobind Khorana, V. Ramakrishna and Amartya Sen got their education through state-funded universities and even today students from poorer section can afford to study only in such universities. A large number of educated manpower required for our country's growth after the independence was provided by these universities. India's achievements in agriculture, space, atomic energy and health care are possible because of the human resources educated and trained in the Indian universities and higher education institutions. However, when it comes to research, creation of new knowledge and innovation, our universities lagged behind and they need to be substantially improved to meet global challenges.

Eminent educationists, economists and technocrats agree that knowledge society forms the important driving force for knowledge economy. Research when combined with higher education creates knowledge and enables sustainable growth of knowledge base. Substantial knowledge base along with creativity nurtures innovations. Recognizing this vital role in transforming their societies to high income economies, several countries, particularly those known as 'Emerging Economies', have vastly improved quality of research in their universities. China, South Korea and Brazil have several of their universities within top 200 universities of the world. A number of other universities in these countries are doing all that is necessary to make it to the list of top ranking universities. Although in India we have realized the role the universities could play as nurseries of knowledge and innovation, it appears that academic leadership is clueless on how to make that happen.

India, with its enormous demographic strength of having the largest number of youth aged below 35 years in the world, can harness its potential by providing quality higher education through research. Such qualified human resources are essential for expansion of both knowledge-based and manufacturing industries. If we allow the quality of teaching and research in our universities to decay, then we need to either send our students abroad or get foreign universities into India, both the options are very costly, draining foreign exchange and benefit only a miniscule of the population. Hence, there is an urgent need to improve quality of education and research given by our universities and encourage them to become world-class. This will attract students from abroad to come and study in our universities further contributing to knowledge generation. To achieve this goal (1) Appointment of head of higher education institutions/universities needs to be transparent and merit-based and (2) Primacy of university as the place for research and creation of new knowledge is to be recognized and accordingly supported with adequate funds.

A Vice-Chancellor (VC) can make or break the university – which is the experience of a vast number of institutions of higher education of our country. VC chairs selection committees for appointment of faculty positions in all academic departments. It is obvious that an unqualified person as VC would play havoc in faculty selections, thus ruining the university irrevocably for three or more decades to come. He also plays leadership role in maintaining excellence, updating and revision of curricula of various UG and PG courses, facilitating cutting edge research, attracting internationally reputed scholars for short- and long-term visits among various other functions.

Any reform should begin with the top starting with appointment of VCs to universities. The present practice of appointing VC needs to be changed, as it is not yielding desirable results and has become outdated. At present, a 'Search Committee' consisting of few members of senior academics is constituted for selection of every VC. Potential candidates are nominated or directly apply and

the 'Search Committee' forwards a list of three to five names to the Chancellor (or Visitor in case of Central Universities) and one is selected. This age-old method suited when we had (i) only handful of universities, (ii) least political interference and (iii) probity and integrity prevailed in conduct of selections by the 'Search Committee'. This entire process is opaque as who are the candidates nominated or applied and what criteria was followed to shortlist names is shrouded in confidentiality. No minimum standard criterion is published and followed by the 'Search Committee', leaving scope for unqualified persons selected as VCs for political and monetary considerations. Recent pronouncements on this matter by various courts of law attest to the above reality. The honourable High Court of Bombay in one such case wondered whether the search committee members were blind. During the past few decades, the number of universities in India has increased and the practice of appointing VCs obviously does not work to yield the desirable result of true academic leaders heading our universities. We need to devise a new method for selection and appointment of VCs. To begin with, this can be tried with the centrally funded universities.

The universities may do away with the practice of constituting a 'Search Committee' for each VC selection. A higher education appointment committee (HEAC) consisting of not less than 20 eminent academics as members should be constituted. The members of the HEAC could be nominated by academies for sciences, social sciences, humanities and languages, engineering and medicine. This committee will be common to all central universities and mandated to invite eminent scholars and academics to apply for the position of vice chancellor for any university by advertisement. Definite minimum criteria should be laid down, published and only persons who meet these criteria and those who possess qualities of excellence in teaching and research are to be shortlisted by the HEAC. Complete bio-data of the five shortlisted candidates should be published and public invited to express objections, if any, for including any of the candidates in the panel with valid reasons and proof. The HEAC can then evaluate objections received and accept or reject candidate(s) from the panel and the final list of shortlisted candidates is to be forwarded to the university where the position of VC is to be filled. A body consisting of members of academic council or senate and professors, associate professors and assistant professors is to elect one among them as the VC of their university. The Executive Council or the highest administrative body of the university should be empowered to appoint the elected academic as the VC. The above mechanism will bring in transparency and democratic method in appointment of VC and do away with needless bureaucratic and political interferences. This will ensure that leadership of our universities will be in the hands of serious academics and effect sea change to better quality of teaching and research. Mechanism, broadly similar to the one suggested above, is practised in most developed countries in appointing the executive heads of universities.

Research institutions and laboratories were established soon after the independence; however, research in universities had been largely neglected. The universities were deprived of funds to establish laboratories and the faculty and students have little access to the facilities developed in the research institutions and laboratories. The universities are brimming with young and curious students full of energy who are well geared to take up research and hit upon innovations under suitable guidance of expert faculty. Creative research work by students could be carried out with minimum monetary support as part of the undergraduate and graduate programmes. By providing adequate infrastructure, laboratory and equipment to the universities and higher educational institutions they will become hubs for generation of knowledge.

In India the undergraduate education is mostly left to the colleges where facilities to conduct research are minimum or nonexistent. In most cases the quality of undergraduate education is below the required level, as a consequence students admitted to post-graduate (PG) programmes in the universities are taught the fundamental concepts before the PG level teaching is started. In view of this they get much less time to do research as part of their PG programme. Therefore, it is imperative that undergraduate programmes are to be started in the Indian universities and preferably integrated with their PG programmes. This view has been elaborated and emphasized in the draft New Education Policy formulated by a committee under the chairmanship of Prof. K. Kasturirangan.

Students of UG programmes need to be encouraged to take up research as part of their learning. Research could be made as part of certain courses just as the practical or laboratory courses are designed to support certain theory courses. Furthermore, there should be a standalone course on research such as, UG project which could be assigned four to six credits. Thus young undergraduate students could be introduced to concepts and methodology of research which also provides them experiential learning. Summer internships in university departments, IITs, NITs and CSIR laboratories for UG students should be facilitated. When some of these students continue their studies and enrol in PG programmes, they will be better equipped to take up advanced research. Thus a good amount of research can be done under the guidance of able and qualified faculty members available in the universities and in selected colleges. A large research base will create substantial knowledge needed for innovations to happen.

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