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CREATING FUTURE READY UNIVERSITIES THE INDIAN CONTEXT

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CREATING FUTURE READY UNIVERSITIES

THE INDIAN CONTEXT

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The accelerating changes in the field of Information Technology that is leading to faster and profound changes in social and cultural milieu, has necessitated the higher education to keep pace with the emerging trends and prepare students for life in the expected as well as unexpected future reality. The trend indicates that the future world will be technology dominated, interconnected and perhaps, stressed for natural resources. Higher education, post COVID-19, will be an entirely different world with students having access to many online resources, and hence information dissemination won't be expected from the teachers. The challenge in front of us today therefore, is to create future ready universities to take care of our upcoming generations and reap the benefits of its demographic dividend with which we are rich today but is not going to last forever. Some of the areas which need special attention of Indian Higher Education Institutions in this regard are Governance Reforms, Enhancing Access and Equity, Ensuring Best Global Teaching-Learning Processes, Promoting Innovation and Research, Increasing Employability and Entrepreneurship and Internationalization of Higher Education.. Universities of the 21st century, while producing knowledgeable and skilled graduates with a good value system, must ensure that they contribute to the social, cultural and economic development of the country at large while moving towards achieving 17 sustainable development goals set by the United Nations. The Long-term and short-term objectives need to be defined for higher education. Short-term objectives may cater to employment, entrepreneurship etc. whereas long-term objectives may include inculcation of responsible citizenship, social sensitivity, inclusivity, cultural inclusion etc. India is a land of great diversity with intellectual wisdom, rich heritage, culture, multiple languages and dialects, various dance forms, folk arts, music, pottery, architecture, cuisines, textiles and much more. We need to preserve this rich heritage for posterity, while concentrating on the development of contemporary times. We have to reimagine the Indian higher education from this perspective as well.

PRELUDE

The end-product of education should be a free creative man, who can battle against historical circumstances and adversities of nature. Books are means by which we build bridges between cultures.

—Dr Sarvepalli Radhakrishnan

The historic Universal Declaration of Human Rights adopted at the United Nations General Assembly in 1948 declared, "Everyone has the right to Education". The International Commission on Education for the Twenty-first Century Chaired

by Jacques Delors, in his report *Learning: The Treasure Within* submitted to the UNESCO in 1996 also emphasised the fact that education must result in the overall development of the human personality. The report also mentioned about the four pillars of education : (i) Learning to know: acquiring a body of knowledge and learning how to learn, so as to benefit from the opportunities education provides throughout life; (ii) Learning to do: acquiring not only an occupational skill, but also the competence to deal with many kinds of situations and work in teams, along with a package of skills that enables one to deal with the various challenges of working life; (iii) Learning to live together: developing an understanding of other people and an appreciation of interdependence with a spirit of respect for the values of pluralism, mutual understanding and peace; and (iv) Learning to be: developing one's personality and being able to act with autonomy, judgement and personal responsibility, while ensuring that education does not disregard any aspect of the potential of a person, which could be memory, reasoning, aesthetic sense, physical capacities and communication skills.

In India, the emphasis, since times immemorial has been on holistic development of person leading to complete realisation and liberalisation of self. To quote Swami Vivekananda, "Education is not the amount of information that is put into your brain and runs riot there, undigested, all your life. We must have life-building, man-making, character-making, assimilation of ideas". *Education for him meant the process by which character is formed, strength of mind is increased and intellect is sharpened, as a result of which one can stand on one's own feet.* India is a land of great diversity with intellectual wisdom, rich heritage, culture, multiple languages and dialects, various dance forms, folk arts, music, pottery, architecture, cuisines, textiles and much more. We need to preserve this rich heritage for posterity, while concentrating on the development of contemporary times. We have to reimagine the Indian higher education from this perspective. Ancient India, which climbed the highest pedestal to become *Vishwaguru*, has left a time-tested heritage of the teaching-learning system for us. We need to demonstrate the applicability of this indigenous heritage to the world.

As per Indian Philosophy, the best education is that which emanates into meaningful, happy, healthy and resonating existence for every entity of the universe. The ultimate aim of higher education is the development of the universal beings having healthy inter-relations, interdependence and integration with all. These aims of higher education can be realized only through the appropriate pedagogy and teaching-learning processes. The best Teaching-Learning Processes are those that use participatory and personalised approach, along with collective wisdom through reflective dialogue. There is also a need to shift progressively from teacher-designed and teacher-driven pedagogy to learner-designed and learner-driven pedagogy and ultimately to learner-designed and learner-driven pedagogy.

Today, in the technology-driven, higher education space, abundant resources are available in the form of Open Education Resources (OERs) and Massive Open Online Courses (MOOCs) with Quick Response Codes (QRs) providing pointers to many a learning resource. The use of online resources using remote learning tools has

gained all the more relevance and prominence in the post COVID-19 era when social distancing has created a ‘new normal’. In this scenario, where using online mode is inevitable, one need to be prudent to adopt the most appropriate resources amongst all. The faculty needs to be trained to be enthusiastic, innovative, experimentative and well-equipped for teaching with an innovative approach while adopting technology. There is a need to create a natural interest in teachers to teach. The universities need to create a well-developed infrastructure and online resources with sufficient facilities for greater accessibility.

Relevance is one of the most important aspects which need much emphasis in higher education. *It gives students the motivation to align oneself with a purpose that is meaningful and helpful in their survival and success.* For promoting relevance, the connectivity between ‘world of work’ and higher education needs to be strengthened. In particular, ‘industry-institute-society’ tie-ups need to be increased. The curriculum has to be updated continuously, as per the industries’ requirements at local as well as global scenario. At the same time, the skill learning has to be integrated along with theoretical knowledge. Inculcating dignity of labour in the students as well as society is one more important aspect for increasing the utility of higher education to the society. This is possible only when all kinds of the jobs– blue collared, white collared, pink collared, gold collared etc. – are treated with same respect and dignity. Relevance can also be enhanced by creating multi-faculty universities where subjects like agriculture, community engagement, value education, sports and skill-development etc. are included along with main courses to address the needs of the society and the country as well. Long-term and short-term objectives need to be defined. Short-term objectives may cater to employment, entrepreneurship etc. whereas long-term objectives may include inculcation of responsible citizenship, social sensitivity, inclusivity, cultural inclusion etc.

India is a country of diversities and higher education system should cater to the needs of all the sections of students coming into its ambit. While admitting students, the higher education institutions should promote diversity while appreciating and acknowledging the individuality. Innovative ideas and perspectives of the students should be the criteria for admission, rather than choosing handful of (so-called ‘the cream’) students on the basis of their marks in the qualifying examinations/entry tests. In India the universities have the privilege to celebrate the multilingual, multicultural diversities and create vibrant campuses while creating bridges between different cultures. Universities should make best use of this opportunity.

CREATING FUTURE READY HIGHER EDUCATION INSTITUTIONS: THE WAY FORWARD FOR INDIA

In view of rapid changes in almost all walks of life, higher education of today may not be applicable to the needs of tomorrow. Thus, the challenge in front of us today is to create future ready universities to take care of our upcoming generations and reap the benefits of its demographic dividend with which we are rich today but is not going to last forever. Some of the areas which need special attention of Indian Higher Education Institutions in this regard are bringing Governance Reforms, Enhancing Access and

Equity, Ensuring Best Global Teaching-Learning Processes, Promoting Innovation and Research, Increasing Employability and Entrepreneurship and Internationalization of Higher Education. The measures which India need to take in these areas to create future ready higher education institutions constitute the crux of this article.

Governance Reforms

The present governance models both for sectoral as well as internal governance, may not be very effective for 'New India', which calls for new governance models for bringing excellence in higher education through professional management. Institutions need to practice the key characteristics of good governance, which includes transparency, equity, accountability, and inclusiveness. They must act strategically in formulating plans and policies needed for good governance. Autonomy, accountability, flexibility, effective communication, trust, and transparency within the system at different levels of operation must be ensured to progress towards decentralised governance.

Sectoral Governance: Ensuring Autonomy for Excellence

The issues concerning Sectoral Governance are: lack of autonomy to the higher education institutions; over-centralisation and micro-management of universities by government and regulatory bodies; minimal role of State Councils of Higher Education as buffer institutions; weak quality assurance mechanisms; funding not linked to the performance of the institutions; absence of uniform transparent mechanism for appointment of vice chancellors; establishment of universities for populist reasons; and the overlapping role of regulatory bodies like University Grants Commission (UGC), All India Council for Technical Education (AICTE) and various other statutory professional councils. These issues need to be resolved to create efficient future ready universities. Most importantly, the regulators must function as enablers for contributing to the progress of universities rather than controlling or policing the universities. Thus, there is a need to give more autonomy to HEIs while ensuring accountability and transparency.

In India 'Education' is in the concurrent list and therefore, the centre as well as states have shared responsibility towards discharge of higher education in the states. Many states have constituted State Councils for Higher Education to act as buffer institutions between centre and state to manage state higher education institutions. But many of these Councils are not playing their role properly in connecting Central Government – State Government – State Universities – Colleges in the State to ensure smooth and seamless functioning. There is therefore, a need to ensure greater participation of State Councils of Higher Education to enable them to act as effective bodies to ensure quality of higher education in the states.

Government of India should come out with 'Directives for Establishing New Universities' containing clear guidelines to ensure that new universities are established solely on the basis of necessity. The affiliation system followed in the Indian universities is proving detrimental to the system due to its inherent defects.

The number of affiliated colleges for certain universities goes as high as 1000, which makes it very difficult to manage and regulate. To tackle this issue, either the affiliation system should be abolished as proposed in the draft National Education Policy-2019 or there should be a cap of 100-200 on the number of colleges that can be affiliated with any university.

Reforming Internal Governance of Universities

In the wake of the internationalisation of education, coupled with globalisation and competition, Indian higher educational institutions need to do away with traditional university administration being run with 19th century tools and adopt modern professional approaches of governance. Administrative machinery, which is not equipped with the necessary skills, knowledge and attitude, and is not in harmony with the needs of progressive society can retard the pace of development of a university. On the other hand, flexible, transparent, decentralised, autonomous and accountable governance, responsive to the changing needs of the society and global trends can be a powerful factor in accelerating progress. This can be realised only by collective efforts of professionally trained pro-active administrators and academics who can foresee the needs of fast-changing world and act in accordance. This creates the need for creating avenues for professional training of the educational administrators and academics.

Educational administrators in the Indian higher education institutions include vice chancellors/ directors, registrars, deputy registrars, assistant registrars and other secretarial staff for whom there is no provision for professional and administrative training as of now. The result is poorly functioning higher education institutions far from being professionally managed. For effective management of our higher education system, we need to shift the focus from 'Management of Higher Education' to 'Professional Management of Higher Education'. For vice chancellors there should be compulsory leadership programmes; for other administrative staff, there should be compulsory formal training programmes in university administration; and for academic staff, there should be compulsory faculty development programmes. Recruitment, training and retention of proactive administrators and academics who constitute the mainstay human resource of the university depends upon efficiency of the governance models adopted by the university.

To ensure efficient governance, the universities may be encouraged to establish Human Resource Management Departments as a service departments to take care of the human resource, both academic and administrative. Like in most foreign universities, this department shall be responsible for academic planning, recruitment methodologies including headhunting, retention strategies, staff development and training, personal and professional counseling and gracious exit on superannuation and need-based re-employment. An effective grievance redressal system also needs to be there in place to address the problems of students and employees of the HEIs in the areas of safety, security, facilities etc. so that they can focus on quality teaching, research and learning without any distractions.

There is also an urgent and strong need to conceive and concretise the e-governance programmes and develop an Enterprise Resource Planning (ERP) for the universities to provide a smooth flow of information between the university administration and the students, staff and public so as to enhance the speed and quality of internal functioning as well as to provide a user-friendly access to outsiders. Extensive use of ICT enabled tools would improve the productivity, efficiency and customer satisfaction with measurable results in terms of a substantial reduction in the use and movement of paper, time taken to provide information, reduced delays, cost savings as well as environmental conservation.

Enhancing Access

After globalisation and liberalisation, India has witnessed an unprecedented expansion of the higher education sector. As per the UGC (2020), at present there are 1040 universities / university level institutions and 39,931 colleges catering to 37.4 million students. Although, this is a huge expansion as compared to 0.2 million students and 20 universities in 1950-51, the Gross Enrolment Ratio of Higher Education remains low at 26.3 per cent as compared to GER of about 36 per cent for countries in transition, 54.6 per cent for developed countries with an overall world average of 29 per cent.

There are many reasons for low GER in India but the primary one is that a large population of students in the relevant age group ie 18-23, is simply not eligible to enroll in higher education as they have not successfully completed higher secondary education. Therefore, it is felt that due to a large gap between the number of students available in the age group of 18-23 and those eligible, *inter alia*, to enter in higher education, GER may not be the right indicator for measuring access for developing countries like India. Eligible Enrolment Ratio (EER) based on eligible population may therefore be considered a more appropriate indicator to measure the access or level of participation in higher education for developing countries like India. A comparison of EER and GER shows that India fares much better if EER is used as it provides level playing field for all nations (Mittal et al, 2020).

To improve access with quality, the innovative concept of National Academic Credit Bank (NACB) initiated by the University Grants Commission to create a repository of credits and allow accumulation of credits from different institutions which are easily transferrable among institutions for earning a degree needs to be promoted. This will allow admissions in a university for specific courses, in addition to full degree programmes. The degree can be awarded by the university from where student has earned maximum number of credits on fulfilling the minimum benchmark.

The approach of a synergistic effect among universities shall be to plan and work together so that access, equity and quality can be properly sustained and enhanced. This will need redesigning and rethinking of the higher education system. Recruiting good teachers and improving teacher quality at the school level will have a direct impact on the gross enrolment ratio and quality of higher education.

Also, in a country like India where population is diverse and huge it is imperative to adopt technology-based learning system including open and distance learning, online programmes, and Massive Open Online Courses (MOOCs) to reach the masses. Regulations have been issued for online and Open and Distance Learning (ODL) to ensure maintenance of quality. SWAYAM, an Indian MOOCs platform has also been created by MHRD, keeping in view the need to deliver quality education to all the students in all the areas including rural, backward and remote areas. Higher education institutions must take utmost advantage of these platforms to enhance access.

Ensuring Best Global Teaching-Learning Processes

The effective teaching-learning process is critical for ensuring that all students attain the defined learning outcomes and the expected graduate attributes that make a sustained, substantial and positive influence on their thinking, conduct and attitude. Teaching-learning processes lie at the core of the education system and are critical for fostering quality higher education. The methods of teaching and learning must change for the 21st century learners through adaptation of technology, training of teachers on technology-enabled teaching-learning, institutional support, investment of resources, etc., to alter the prevailing teaching practices. It is also essential to ensure that the HEIs adopt global best teaching-learning processes. Promoting effective global pedagogies and assessment practices, continuous professional development of faculty, and creating technology-enabled learning ecosystems suitable for the present and future needs are the key factors for ensuring best teaching learning processes in the HEIs.

Promoting Effective Pedagogies and Assessment Practices

The pedagogical practices in most HEIs continue to remain centred predominantly around rote learning and lecture methods with little opportunity for participative and collaborative learning methods that promoting critical thinking, analysis and application. The syllabi and structure of programmes/courses of study remain rigid and narrow, and lack a holistic approach to knowledge and skills acquisition, which in the contemporary times is multi-disciplinary, inter-disciplinary and cross-disciplinary. There is a strong case for the shift from teacher-centric teaching paradigm towards a student-centric learning while ensuring that the learning paradigm is more experience-based capable of igniting the imagination of the students.

Over-emphasis on the external assessment of students with inadequate formative assessments is an issue which prominently figured during COVID-19 crisis. There is a mismatch between degrees and the competencies assessed leading to a crisis of legitimacy of the examination/qualification systems. The 'assessment of learning' must shift to 'assessment for learning'. We must appreciate that human brain has a self-organised learning system and every student learns in a different way. Teachers role in this context is to facilitate each student to have their own style of learning. Learning will happen when learning opportunities will be created for the students with clear goals with involvement of teachers and taught with the subject.

Individuals need to be assessed about their innate qualities based on their interest, skill, personality, competence and capability for achieving excellence.

Social media like Google, WhatsApp etc. can be used in the regular teaching-learning to shift from 'centralised learning' to 'learning centric' system, which will help not only the students but also the teachers. The emphasis should be on blended education with a mix of flipped classroom and online activities in teaching. Continuous training and capacity building of teachers will be needed for the implementation of this approach. The effective pedagogies may be achieved through adoption of emerging modern approaches of teaching involving higher-order thinking, outcome-based learning, and blended learning. The 5E model of constructivist approach to learning i.e. engage, explore, elaborate, explain, and evaluate will help in a big way to achieve the learning outcomes.

Continuous Professional Development of Faculty

The opportunity for induction training for initial professional preparation of newly recruited assistant professors and continuous professional development of incumbent faculty is limited in Indian universities. Consequently, adequate opportunities are not there to: improve their performance in the core areas of teaching, research, and scholarship; learn about new fields/frontiers; apply new pedagogies, instructional delivery models, and use of technologies to enhance learning; and achieve excellence in research and scholarship. Teaching is a profession where the personality of teachers impacts the students. So, proper orientation should be given to teachers at the time of joining and also during continuing professional development programmes regarding do's and don'ts and portfolio management as important components of the personality of teachers.

One of the important tasks of a teacher is to inculcate a constructive mindset and positive attitude in the students towards society and the environment and encourage them to think and learn beyond facts for creating a sustainable future. The capacity building of teachers in this direction is essential. A conducive academic and learning environment needs to be created and maintained in our universities and colleges for building capacities of the faculty members. For this, a proper policy should be framed and implemented. The policy should contain the breakup of workload and time required for teaching, research, extension as well as in-service continuous professional development of teachers. The needs and competence of each teacher and student are different, and hence the training programmes for their capacity building and development have to be customized accordingly.

Government should set up a 'Higher Education Research and Development Centre' to provide solutions for all the teaching related problems in the universities and to identify and create technology-enabled solutions for the teachers to integrate technology in teaching-learning process. This centre can impart frequent training in pedagogy and assessment practices through in-service programmes for faculty members of university and affiliated colleges by including continuous training and orientation programmes for understanding the developments taking place at global level.

Creating Technology-enabled Learning Ecosystems

In this era of ICT and also in view of future scope, it is necessary to ensure that all HEIs have the state-of-the-art academic infrastructure, including technology-enabled/assisted learning ecosystem that is required for effective organization of teaching-learning activities. The role of technology (video, ICT, open education resource, self-learning modules, etc.) in education for enhancing skills and the learning process among the teachers and students need to be encouraged and promoted. Creating a technology-enabled learning ecosystem in our universities is a must for up-scaling our universities to global standards. Post COVID-19, this realisation is even bigger. Smart phones have penetrated largely among students and one need to figure out its utility in teaching-learning among them. The faculty needs to be continuously updated about new developments in technology for improving their teaching skills. Specially crafted programs should be offered to the faculty for promoting technology-enabled teaching.

The learning management system needs to be made student-centric to enhance the learning experience and for addressing the problems faced by the multilingual students in accordance with their learning style and language. To improve the teaching-learning process, use of videos, movie clips, TV clips, animations, MOODLE, LMS, online attendance system, and others can be promoted. Open sources tool kits can be used to merge technology and education cohesively. Through technologies, we can improve, supplement, reinvent and transform the teaching-learning process.

Promoting Research, Innovation and Excellence

India has to be at the forefront of knowledge creation, research and innovation (R&I) as it aspires to progress through sustainable development and be a world leader. India's young demography must be made an effective dividend in this mission. This will need focus on three aspects. First, we need to produce high-quality human-resources, comparable to the global best with a good understanding of research and innovation methods, trained for critical-thinking and taking out-of-the-box initiatives. Second, there is a need to create substantial numbers of interconnected centres of global excellence as drivers of research and innovation, with deep connections to society and the economy. Third, there is a need to shift the focus of funding for research and innovation from the fundamental to the applied in all areas while focusing on areas of national importance. India needs to invest in Research and Innovation (R & I) to emerge as a front runner in knowledge creation if it aspires to progress through sustainable development, while making use of its demographic dividend.

Creating a Research and Innovation Ecosystem

In 2018, India spent 0.69 per cent of its GDP on Research and Innovation as compared to 2.8 per cent by USA, 2.1 per cent by China, 4.3 per cent by Israel and 4.2 per cent by South Korea (EAC-PM, 2019). As a direct consequence, India lags behind in the number of patents and publications produced. India's share of scientific publications was 4.8 per cent in 2016 as compared to 17.8 per cent of USA and 18.6 per cent of China.

The number of researchers per lakh of the population is only 15 in India as compared to 111 in China, 423 in the United States, and 825 in Israel (Economic Survey of India, 2016-17). Reportedly, World Intellectual Property Organisation (WIPO) in its report in 2017 mentioned that China made as many as 13,81,584 patent applications, with just 9.8 per cent being made by non-resident Chinese, the USA made 6,06,956 patent applications, while India made a mere 46,582. Considering our emphasis on promoting R&I activities of global standards in our HEIs, a more comprehensive approach needs to be taken for transforming the quality and quantity of research in India.

The universities need to create an ecosystem for research and innovation by including the structure and functions of the innovation and ideation cells in its research policy. The concept of undergraduate research in groups should be introduced in universities and colleges in India as they form the feeder line for carrying out research at higher levels. To promote innovation, the universities and institutions should adopt and implement the National Innovation and Startup Policy launched by the Government of India in 2019 and accordingly provide opportunities for incubation cells and share the cost of filing of patents. Students' inventions supported by faculty members while making use of university infrastructure should be patented by the university. Faculty should be incentivised for good quality research and patents through fast track career advancements. Faculty-friendly governance policies need to be adopted and financial freedom given to the faculty. Innovation centres in universities should act as an interface between 'problem space' and 'solution space' in identifying problems for industry, government, society and universities, and presenting them to faculty and students for research and/or consultancy.

Universities should collaborate with industries and a policy of at least one industry for every university shall be adopted. Basic minimum scientific infrastructure must be created in all the state universities and more research fellowships should be allocated. For increasing publications in high end international journals, the universities need to enhance collaboration with institutes and universities in India and abroad. Multi-disciplinary research activities need to be encouraged with collaboration among HEIs. International collaboration in good quality research work needs to be encouraged.

The scheme of National Research Foundation with an initial funding of Rs. 20,000 crores as proposed in the Draft National Education Policy can substantially contribute in creating a research and innovation ecosystem in the country.

Promoting Excellence and Improving International Rankings

India at present does not fare well in international rankings. In the QS rankings of 2020, there was no Indian institution in the top 100; there are three in top 200; eight in top 500; and 21 in top 1000, which speaks volumes about our international standing. India needs to give a multipronged boost to its Higher Education System to ensure that it is ranked among the global best. To improve excellence in higher education, the Government has taken several steps. These include launching of both

centrally sponsored schemes like Rashtriya Uchchar Shiksha Abhiyaan (RUSA) and targeted projects such as increasing the number of institutions of national importance, making international faculty available for short term through Global Initiative of Academic Network (GIAN), a National Institutional Ranking Framework (to enable institutions to assess themselves and get motivated to improve), Impact Research Innovation and Technology (IMPRINT), Scheme for promotion of Academic Research Collaboration (SPARC), Uchchar Avishkar Yojana (UAY), Study-in-India, Prime Minister's Research Fellows (PMRF), Institutions of Eminence etc. For excellence in global rankings, the HEIs need to focus on:

- Academic reputation by enhancing, quality of teaching, quality of research, doctorate-to-bachelor's ratio, doctorate awarded to academic staff ratio, institutional income, research income, international collaboration, fields medals by alumni and faculty and count of faculty awards, honours, and prizes.
- Employer reputation with focus on producing effective and innovative graduates for the employment market and linkage with industry.
- Faculty students ratio and make an effort to bring faculty/student ratio to be 1:10
- international students ratio with focus on internationalization by admitting more international students, specifically from neighbouring countries.
- international faculty ratio with focus on internationalization by hiring more foreign faculty from all over the world.
- innovation and entrepreneurship with focused funding for innovation and entrepreneurship.
- Individual performance by launching special drive to hire extraordinary faculty and students across the country and world.

Indian Higher Education Institutions need to look at the changing education dynamics internationally and aligning curriculum in line with emerging challenges with a definite industry interface. There is need to hire thinkers and innovators with enhanced skills at par with international standards. There is a strong need for branding and marketing of Indian institutions through various means including social media. Faculty and student exchange programs within the country and internationally need to be encouraged to forge collaborations. For improving the rankings, mapping of skills and industry expectations is required to ensure that students are adequately equipped for employability and entrepreneurship. The research outputs in terms of publications in high impact factor journals is most important.

Developing Employability and Entrepreneurship

Universities play a significant role in terms of contribution to the economy of a country as they are the key drivers of growth, performance and prosperity. Therefore, when

we talk about reimagining Indian universities, we must ensure that the universities contribute to the knowledge-based economy based on highly skilled, well-educated, and technical-minded workforce.

Developing Future Skills

The ancient system of education in India emphasised on holistic development of learners by introducing students to the higher order cognitive skills, developing critical thinking, challenge prejudices, preparing them to earn a livelihood, and develop value systems to produce humans of higher intellect and ethics. Universities of the 21st century, while producing knowledgeable and skilled graduates with a good value system, must ensure that they contribute to the social, cultural and economic development of the country at large while moving towards achieving 17 sustainable development goals set by the United Nations. The universities and institutions of higher education need to prepare students for the future world, which will be technology dominated, interconnected and stressed for natural resources. Hence, technology-enabled, student-centric educational paradigm with due emphasis on employability needs to be created as base of future higher education.

Students of the 21st century need to be equipped with skill sets comprising of skills of complex problem solving, critical thinking, creativity, coordination, people management, negotiation skills, cognitive skills, flexibility, judgment, and decision-making skills. Therefore, in the paradigm of new challenges, institutions of higher education need to curate the pedagogies and teaching in order to develop these skills to bridge the skill gap between graduates and the industry requirements. Lifelong learning and learning according to the capacity and need has to be the key characteristics of education to take care of entrepreneurship, innovation, vocation, passion, and aptitude. Students of the 21st century will require a lot of flexibility in teaching-learning pedagogies with multiple entry and exit paths. Keeping in mind the dynamism of the environment and ever-changing landscape, universities would be required to focus on a blended approach of teaching learning where students would have liberty to design their own learning path and learn at their own pace. Higher education, post COVID-19, will be an entirely different world with students having access to many online resources, and hence information dissemination won't be expected from the teachers. Instead, students would be required to be introduced to creativity and design thinking to equip them for complex problem solving. Keeping in mind the dynamism of environment and ever changing academic landscape, universities need to focus on blended education approach providing liberty to learners to design their own courses as per their aptitude, need and desire.. All modern-day technological solutions like AI, Robotics, Virtual and Augmented Reality, Big Data Analyse, 3D Printing, IOT, Block Chain Technology etc. need to be introduced in the curriculum.

Learning from International Models

Vocational Education and Training (VET) models adopted by many countries like China, Germany and Switzerland need to be adapted to promote vocationalisation

of higher education. A provision needs to be created for external exposure of students and faculty at different stages to incorporate international experience in training of students/scholars. Universities should ensure movement of youth both ways, i.e. sending faculty and students to different countries and inviting faculty and students from different countries to Indian universities. This may eventually translate in designing courses, training programmes, better pedagogies, improving research and innovation and in developing an entrepreneurial mindset of students. International events can be arranged in the universities to give international exposure to the students on different aspects covering not only academics and research but also areas like culture, habits, customs, geographies, climatic conditions, linguistics, culinary, dressing etc. of different countries. In nutshell, Indian universities should learn, adapt and integrate best practices from international academic experiences.

Entrepreneurship activities in the universities ought to be paired with international funding organisations and local communities to promote innovation in local skills and traditions. Entrepreneurship development courses need to be offered among the Choice Based Credit System to students at the graduate level. Specialised orientation and training should be imparted to the faculty of all subjects so that they can integrate this component in their teaching. The focus has to be on incubation and handholding of budding entrepreneurs and sector specific targets can be fixed. Accordingly, sector specific skill-based learning may be designed for employment and entrepreneurial growth at national and international levels.

Structural and Regulatory Reforms

Regulatory reforms are required to ensure that the skill curriculum can be introduced in the universities with a lot of flexibility to allow students to opt for the skill sets as per their individual interests and preferences. A mechanism has to be created to enable universities to understand the strength and interests of individual students and imbed the required components in the curriculum (flexible curricular complementing one's interest). Liberal education is required to boost inter-disciplinary learning in students in order to make them capable of finding solutions to problems from different perspectives. Continuous upgradation of the curriculum involving multi-skilling, continuous upgradation of skills and knowledge, soft-skills, life skills etc. as per changing requirements of jobs is very important. Skill orientation should be inculcated from the primary level of education itself and carried forward to higher education. For this, a continuum in educational qualification frame works needs to be created jointly by the Department of School Education and the Department of Higher Education.

The governments and regulatory bodies need to give a lot of autonomy to the HEIs for promoting skill education, which should be treated as an integral part of HE system rather than a standalone scheme. A strong mechanism to strengthen academia industry linkages and engagement is the need of the hour.

Internationalisation of Higher Education

India during ancient times had an important place in the internationalisation of higher education. The University of Nalanda established in 4th century BCE, was one of the world's greatest universities. In the 7th century AD, Nalanda University had some 10,000 students and 2,000 teachers from China, Indonesia, Korea, Japan, Persia, Turkey, and other parts of the world. Internationalisation of higher education has become an inevitable dimension of higher education in the era of globalisation, and in the context of the generation of new knowledge and its application. However, when we talk of internationalisation, it should be kept in mind that internationalisation must not be a goal in itself, but a means to enhance the quality of education and research.

Promoting Internationalisation of Higher Education in India

To promote internationalisation in India, we need to take a number of steps like improving infrastructure, internationalising curriculum, easing out visa rules and addressing Foreigners Regional Registration Officer (FRRO) issues, appointment of foreign faculty, forging international collaborations, flexibility in admission cycles, multiple entry and exit rules etc. There is a need to understand the perception of the international audience about Indian education and promote brand building with a proactive approach while highlighting achievements and strengths of India, especially in fields like Yoga, Indian Knowledge Systems, Ayurveda, Value Education, Spiritual Studies etc. Universities must create international facilities in the campuses for foreign faculty and students. They should essentially invite experts from foreign universities and continuously hold workshops, seminars, conferences, webinars, and various other activities to promote Indian education. Alumni must be significantly leveraged for brand building of Indian Higher Education in India and abroad.

Dual degrees and training programmes in collaboration with universities other than the parent university should be facilitated. Internationalisation requires a lot of support from the government and embassies for visas and FRRO, which should be provided with less formalities and fees. Government of India initiatives towards promoting Indian higher education abroad through “Study in India” programme needs to be popularised through international collaboration, workshops, seminars and social media etc. Promotional campaigns like ‘Incredible India’ need to be launched to promote the best Indian universities/institutes for higher education abroad. In order to move forward to capture the South Asian market to leverage from the operation of Act East Policy, reorientation of the course curricula is required to be consistent with market trends, self-employment avenues and industries’ requirements.

Research areas need to be identified and prioritised for international collaboration, keeping in view the international trends of academic research and the national interests. An online portal to forge national and international collaborations in the areas of teaching and research would be worth considering by central bodies.

Attracting International Students

At present, around 800,000 Indian students go abroad to study in foreign higher education institutions as compared to an inflow of only 46,000 foreign students to India that too with more than half of them from Nepal and Afghanistan. India is yet to harness the full potential of its wide education network to attract international students. The initiatives in India to promote the internationalisation of higher education have been very limited. So far, the only significant efforts from the government to attract international students to Indian institutions have been the Indian Council for Cultural Relations (ICCR) scholarships (around 4,000 scholarships given per year) and Indian Technical and Economic Operation (ITEC) fund support from the Ministry of External Affairs (MEA), Government of India. To increase the number of inbound students and to brand India as an educational destination, the 'Study in India' programme was launched in April 2018. However, the number of international students enrolled in HEIs in India continues to be low.

India needs to take a number of steps including building world class infrastructure, simplifying visa rules, easy entry and exit provisions, international hostels, and curricular revision with international orientation to attract international students. The important factors that play crucial roles in attracting foreign students include: enriching classroom experience with focus on learning pedagogy; a robust evaluation process, innovative courses, outreach at a global level; the flexibility in teaching-learning; internationalisation of entrance examinations; issuing work permits for international students; international curriculum good quality faculty; research facilities; acceptability of grades and credits on international pattern; and comfortable and affordable hostels. Non-Resident Indians (NRI) quota and foreign students' quota on supernumerary basis needs to be created in HEIs to attract international students.

Academic credit exchange needs to be systematised, and seamlessly aligned internationally, so that a uniform process of credit transfer can be developed. This will facilitate international student mobility – both in terms of inflow and outflow of students. Conducive regulations to facilitate cross border movement of academic stakeholders in higher education are essential.

There is a need to set up a network of international educators like NAFSA (National Association of Foreign Student Advisers) in India to assist universities in promoting internationalisation. A draft policy on internationalisation of higher education is a must to clearly spell out measures and regulations on various aspects of internationalisation. The policy must include modalities for promoting internationalisation like making it compulsory for all universities having international students to put a mechanism in place, including an International Students' Office to address the concerns of international students and cultural sensitivity. Provision of home stays and involving international students in various cultural activities to familiarise them with the local or indigenous culture, is desirable. The counseling bureaus of the universities must take the onus of organising workshops for the cultural

orientation of such students, while balancing the indigenous and global knowledge systems of India.

All academic programmes must have international orientation without losing sight of the indigenous values and national interests. In the post COVID time, it is all the more important and opportune time for Indian higher education institutions to promote internationalisation to achieve the desired credibility and visibility among relevant national and global circles. Collective efforts need to be made in this regard by the universities, government and apex bodies of higher education. Enriching students experiences – both inside as well as outside the classrooms – are critical factors to attract foreign students to Indian higher education institutions. There is also a need to sensitise our diplomatic missions abroad to attract the foreign students who are looking for educational opportunities in India. Universities should involve Indian embassies actively in highlighting the strengths of the Indian higher education system in foreign countries. To stand out in the international market, the role of policy makers is just as important as that of universities. Interaction of MHRD and apex bodies with various ministries in India for ease of policies, regulations and for providing infrastructure and human resource support for encouraging foreign students to study in Indian universities can work as a catalyst in this endeavor.

CONCLUSION

The accelerating changes in the field of Information Technology that is leading to faster and profound changes in social and cultural milieu, has necessitated the higher education to keep pace with the emerging trends and prepare students for life in the expected as well as unexpected future reality. Hence, teaching ought to be futuristic with a mission to prepare students for an unknown future in which the rules of the game would have changed. Simultaneously, it should seek to preserve our traditional knowledge base, skill base, values, virtues, and culture. Higher education shall not be considered as a medium to get a degree for a job but a tool for manifestation of ones potential. In fact, education channelises an individual towards critical thinking, as well as to acquire skills like problem solving, reasoning, rationalisation, visualisation, design thinking, innovativeness, etc. Ultimately, the core objective of the higher education is to create the best minds as per the demand of time, society, and the future. It is high time for India to introspect and create a teaching-learning and research ecosystem for higher education in tune with the needs of society with the capacity to respond to real-time situations and future challenges. Indeed, this is the time to Reimagine Indian Universities and build universities that matter.

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Dr (Mrs) Pankaj Mittal is the Secretary General of the Association of Indian Universities (AIU). Earlier, she served as the founder Vice Chancellor of Bhagat Phool Singh Mahila Vishwavidyalaya, Khanpur Kalan, Haryana for six years starting from 2008. She has served University Grants Commission of India for over three decades in different capacities including the post of Additional Secretary. She received Fulbright Nehru Scholarship grant for Educational Administrators. She made exemplary contribution towards Policy Planning and Management of Higher Education. She visited a number of countries like USA, Canada, United Kingdom, Australia, Mexico, China, South Korea, Spain, Germany, South Africa, Hong Kong, Malaysia, Mauritius and Philippines to name a few, for academic exchanges and other academic purposes like presenting papers in international conferences etc. Dr Mittal had led a delegation of 15 Vice Chancellors to UK and 15 Vice Chancellors to Mexico for academic collaborations. She is a member of various High Powered Committees and Professional Bodies in India as well as other countries. She is also National Commissioner of Rangers of Bharat Scouts and Guides. She has to her credit a number of papers, articles, occasional papers and reports on issues relating to higher education and women empowerment in national and international journals.

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