Roadmap to Sustainable Higher Education

Input from India for 3rd UNESCO World Higher Education Conference (WHEC-2022)

Association of Indian Universities
AIU House, 16, Comrade Indrajit Gupta Marg
New Delhi

Roadmap to Sustainable Higher Education

Input from India for 3rd UNESCO World Higher Education Conference (WHEC-2022)

Association of Indian Universities
AIU House, 16, Comrade Indrajit Gupta Marg
(Kotla Marg), New Delhi

Acknowledgement

I gratefully acknowledge the cooperation received from the Vice - Chancellors and the Nodal Officers/Co-ordinators of the host universities. I put on record the contribution of Dr Amarendra Pani, Joint Director, Research for coordinating with the collaborating universities, being a part of the deliberations and collecting, compiling and editing the report. The assistance received from the staff members of AIU Research Division- Dr Usha Rai Negi, Assistant Director, Dr Sandeep, Sr. Research Assistant, Dr Rahul, Research Assistant are duly acknowledged.

Dr (Mrs) Pankaj Mittal
Secretary General

Nodal Officers/Coordinators of Collaborating Universities

Prof Anamika Srivastava O P Jindal Global University, Sonipat, Haryana-131001	Prof H.K Laldinpuii Fente Mizoram University, Aizawl, Mizoram 796004
Dr.Divya Shah Dr. Babasaheb Ambedkar Open University, Ahmedabad, Gujarat 382481	Dr. Jinusha Panigrahi National Institute of Educational Planning and Administration (NIEPA), Delhi 110016
Ms. Mani Goswami Sri Sri University, Cuttack, Odisha-754006	Prof Jyoti Kumar Verma Dayalbagh Educational Institute, Agra-282005 UP
Dr.S.Selvabaskar SASTRA University,Thanjavur, Tamil Nadu 613401	Dr Kallanmarthodi Geetha Avinashilingam Institute of Home Sciences, Tamil Nadu 641043
Dr Apoorva Palkar Savitribai Phule Pune University, Pune-411007, Maharashtra	Prof. Aejaz Masih Jamia Millia Islamia Okhla, New Delhi-110025

Patron

Dr Pankaj Mittal
Secretary General, AIU

AIU Convenor

Dr Amarendra Pani
Joint Director & Head, Research Division, AIU

Coordination Team

Dr Usha Rai Negi, Assistant Director (Res), AIU
Dr Sandeep Mishra, SRA
Dr Rahul, RA

Introduction

Association of Indian Universities (AIU), one of the premier apex higher education institutions of the Country established in 1925, is a research-based policy advice institution to the Government of India in the field of Higher Education, Sports & Culture and internationalization. At present it has a membership of 875 universities including 17 international universities. Since its inception, it has been playing a vital role in shaping Indian higher education. AIU is vested with the power of according equivalence to Degrees/Qualifications offered by the universities across the world with those offered in India. Being an apex institution, it constitutes an integral part of all major decision-making committees and commissions in the country and facilitates cooperation and coordination among Indian universities and liaise between the universities and the Government and also national and international bodies of higher education in other countries in the matters of common interest. As a National Sports Promotion Organization (NSPO), it promotes sports among Member-Universities. Dr. Sarvepalli Radhakrishnan, Dr. Zakir Hussain and Dr. Syama Prasad Mukherjee are among some of the stalwarts who served AIU as its presidents.

Higher Education Institutions (HEIs) play an important role in shaping the society. They are vital and inevitable for a progressive society. A strong system of higher education is a significant contributor to the country's ability to compete in the global marketplace and is critical to economic strength, social well-being, and position it as a world leader being the enablers of change in society. Emphasis is rightly placed on the ways in which higher education can better serve society, foster economic development of nations, promote cultural diversity, political democracy and international cooperation.

India has a second largest higher education system of the world with more than 1000 universities and 45000 colleges catering to around 37 million students. Due to their unique position in the society, the HEIs have immense scope and potential to contribute towards achieving all the 17 SDGs and thereby accomplishing 2030 agenda. Rather, realizing the SDGs without the involvement of higher education sector is quite an impossible task. In India, there is a lot of tacit contribution of HEIs towards realizing SDGs but there is no data on classified efforts of HEIs on the same. In the impact ranking of Times Higher Education which assesses universities with reference to their contribution in realizing UN SDGs, only 2 public universities and 9 private universities could find place. This compels us to think whether the Indian Higher Education Institutions are responsible enough in their approach towards sustainability in delivering education. Most importantly, it makes us ponder why we are not able to tap the potential of HEIs in achieving SDGs. To apprise the Indian HEIs about their role, and to reinforce them to take up the task of accomplishing SDGs as their prime responsibility, AIU as a representative body of HEIs in India, organized all the Five Zonal and National Vice Chancellors Conferences in 2021-22 on the theme ***'Realizing Sustainable Development Goals through Higher Education Institutions'.***

HEIs in India have displayed their potential during the COVID-19 crisis and demonstrated why their expertise and involvement matters in responding to the crucial challenges. We are left with one decade only to accomplish 2030 Agenda. It is therefore, a crucial step at an apt time, to gear the HEIs to dedicate themselves to contribute significantly in achieving those goals.

The 3rd UNESCO World Higher Education Conference (WHEC 2022) is scheduled during May 18-20, 2022 at Barcelona, Spain. The Conference is being organized in collaboration with

Government of Spain, the regional government of Catalonia, the City Hall and Regional Authority of Barcelona and supported by Global University Network for Innovation (GUNI)/Catalan Association of Public Universities. The WHEC 2022 aims at breaking away from the Traditional model of Higher Education and opening the door to new, innovative, creative and visionary conceptions that will serve the current of sustainable development.

Association of Indian universities (AIU) received a communication from UNESCO inviting participation and also for supporting the Event by providing inputs from India on TEN themes identified for deliberations. The input for the Conference, as expected by UNESCO, was in the form of recommendation of apex academic leaders and other stakeholders who could be invited to participate as speakers, dialogue panels, and participatory exchanges. The second aspect was to contribute to knowledge development and dissemination through various activities such as Open Knowledge products, Policy Dialogue and Consultation, Standard Policy Briefs and Short Videos on Higher education accomplishments.

The key conference themes are Impact of COVID-19 on Higher Education, Higher Education and the SDGs, Inclusion in Higher Education, Quality and Relevance of Programme, Academic Mobility in Higher Education, Higher Education Governance, Financing Higher Education, Data and Knowledge Production, International Cooperation to Enhance Synergies and Preparing for the Future of Higher Learning. The ten universities which were selected for the collaboration are O P Jindal Global University, Sonipat, Haryana, Dr. Babasaheb Ambedkar Open University, Ahmedabad, Gujarat, Sri Sri University, Cuttack, Odisha, SASTRA University, Tamil Nadu, Savitribai Phule Pune University, Maharashtra, Mizoram University, Aizawl, Mizoram, National Institute of Educational Planning and Administration (NIEPA), Delhi, University of Kashmir, Jammu and Kashmir, Dayalbagh Educational Institute (DEI), Agra, UP, Avinashilingam Institute of Higher Education for Women, Tamil Nadu and Jamia Millia Islamia, New Delhi.

As a response to the call of UNESCO, AIU organised the Consultative Meetings/Webinars on the ten themes of the Conference in collaboration with the above mentioned universities. The Meetings were held under the aegis of AIU. The inputs of the consultative Meetings are compiled, edited and this document/report entitled as "***Roadmap to Sustainable Higher Education"*** is developed which includes the summary of deliberations and recommendations for each of the ten themes. The report is now submitted to UNESCO for further deliberation.

We hope the inputs/ideas presented in the report will serve the purpose and will be useful for UNESCO to prepare the roadmap of future higher education.

Theme - I

Impact of Covid-19 on Higher Education

Preamble

Amidst the rapidly changing world with day-to-day booming technology and enhancement in artificial intelligence, Higher Education System has been confronted with various challenges. Furthermore, the new BC (Before Covid) and AC (After Covid) world, as the COVID 19 are entirely different with significant effects on education systems worldwide, including higher education and the research community. In the context of the larger goal of sustainable development, education is at the centre. Specifically, higher education systems can contribute to the agenda of sustainable development in several ways, such as preparing effective skilled labour, the creation, dissemination, and application of knowledge to construct professional, institutional, and technological capacities and most importantly, retaining the ethical and academic values.

It is essential to note here that the homogenised view or a perspective on the Impact of Covid on Higher Education provides a limited perspective. With its diversified, pluralistic and integrated understanding, a country like India can provide a different angle to this subject. A famous writer and thinker, Yuval Noah Harari, pointed out that pandemic is not a national problem. It is indeed a global problem that every nation has to handle in its own unique way. Keeping *this perspective* and *our way* in mind, various contributors in this large scale project, belong to not just higher education-related inter-governmental organisations such as UNDP, ILO and World Bank, but this list also incorporates various university authorities; teaching and research staff; leaders of community service programmes; students and youth organisations; the private sector; professional associations; teachers' unions; non-governmental organisations; civil society groups and global think tank. Association of Indian Universities is one such organisation in India that will contribute to the conference with the perspicuous perspective on higher education from multiple standpoints from India.

Based on the above background, the panelists in Consultative Meeting deliberated on the following aspects of the main theme assigned by UNESCO.

1. Creating digital infrastructure
2. Capacity building of teachers as well as students
3. Training of teachers for using various online platforms as per their need.
4. Assessment and Evaluation
5. Online placement
6. Online content
7. Promoting internationalization.

Even though the impact of Covid-19 was witnessed worldwide including both the developed and developing countries, it disproportionately affected developing countries. The developing countries already had their inherent challenges about access to education and the Pandemic added to that misery. While technology is a ray of hope and has penetrated Indian society in multiple ways, India has to confront significant challenges as a promoter of using technology in education. some elite universities could afford and practice online education with the entire practice of online learning, teaching, research, experimental learning and evaluation with the support of AI enable and remote proctored methods. However, the picture of India is not the same. and in online

education India has to face many challenges and difficulties. Multiple pieces of evidence, such as various government reports and nationwide surveys support this argument. In a country like India though electricity is available to 90% of houses under the mission *Antyodaya*, only 47% of households receive electricity for more than 12 hours, 33% of houses in India receive electricity for 9 to 12 hours a day, and 16% of houses still do not have electricity for more than 8 hours a day. In terms of technological penetration, it is very haphazard and exclusionary in the context of India. Though Mobile phones are a handy replacement for computer/laptop/notebook or similar devices, but it is not an exemplary idea as many phones did not support applications useful for carrying links and assignments, which hindered study and research. According to the National Sample Survey on Education (2018) report, out of 66% village population, only 15% had access to internet service. In the context of the urban scenario, only 42% population had an internet facility. The five significant challenges in higher education in front of India were:

1. Covid pandemic as a global challenge
2. Disproportionately effect of the Pandemic on the developing countries
3. The teaching - learning system is affected (including teaching, research, the conduct of examination etc.)
4. Technological challenges not just in terms of hardware but also that of in software
5. Inequalities and inequities already prevalent in education system coming to forefront and dominantly affecting higher education.

There are many issues that the country faced in higher education during covid, connectivity was the central issue for many rural area students while switching to the online mode of education. Another major failure of online education was in teaching of practical courses. Unavailability of hardware just as (laptops and computers) was also a significant concern at the level of students. Along with these challenges, the challenge of retaining some of our good brains, which are constrained not to go abroad for higher study due to Covid 19 by providing them good facilities.

The fundamental issue of online learning was accessibility, availability and affordability of specialized hardware and software, Music as a practical art, carrying an age-old tradition of teaching-learning with *guru* and *shishya* face to face interaction, suffered great impact during the initial stage of the pandemic and the nationwide lockdown following it. Continuous supply of electricity, disruption and disturbance in the internet connection, fluctuation in internet speed and connection issue causing unintended exits from the class, lack of clarity in the sound and disturbance caused by that on the part of teachers as well as students, inability to switch on the camera due to excessive consumption of data following hampering the quality of online classes were some of the issues that teachers as well as students faced at a practical level. Another aspect associated with practical courses such as performance arts was the lack of good books available online and the library's closure on the campus.

When it comes to inclusive education, not just class aspect but disability was also a significant issue. Making technology student-friendly, especially for disabled students, was quite a challenge for most universities in India. Along with providing assisting technology for online learning, flexibility with the teaching model also should be taken care of in terms of higher education for disabled students. Social responsibility as a primary focus was an essential lesson of the pandemic. Post covid situation demanded new ways of teaching and learning methodology and new ways of

evaluating the students. It led us to believe in teamwork social responsibility and inspired learning inventions and empathy training. It raised serious questions on individual growth and compelled society to think about collective growth. It questioned our contemporary consumerist development and forced us to think about sustainable and ethical lifestyles.

It was challenging to make masks and sanitisers for more than one billion population during the first wave of COVID, but with the support of students from various universities, a developing country like India made enough quantity of masks and sanitisers. During the corona pandemic, ventilators and some medicines came from foreign countries because India did not have the resources to create them. The Indian education community converted this challenge into an opportunity, and the students of IIT Roorkee made ventilators. The students of an engineering college from Tamandu made a 'robot nurse' who could help corona patients. The statistical data of Keshav Vidyapith, Sharada Vidyapith and Vivekanand Vidyapith proved that how higher education institutions contributed to *Aatma Nirbar Bharat* (Self dependent India) by providing training to more than one thousand seven hundred people and making them eligible for a job to fight against the issue of the unemployment. India has more than 1000 Universities, 45000 colleges and around 80 lakh schools with 330 million students who can collectively contribute in developing country like India an *Aatma Nirbhar* Bharat (Self-dependent India).

The 'Swayam' (Study webs of Active learning for Young Aspiring Minds), which was a programme initiated by the Government of India and designed to achieve the three cardinal principles of Education Policy, viz. access, equity and quality came to a rescue in partial manner as many students could continue their learning through the portal. It also sought to bridge the digital divide for students who had hitherto remained untouched by the digital revolution and had not been able to join the mainstream of the knowledge economy. Typically, students can get a conventional degree through conventional programmes, as well as they can also get a certificate for Hindi courses through the Swayam platform. It means course-based registration as well as course-based certificate too. ***Swayamprabha*** is a group of 33 DTH channels devoted to telecasting high–quality educational programmes on 24 hours 7 days basis using the GSAT-15 satellite; the contents were provided by NPTEL, IIT, UGC, CEC, IGNOU. In ***Swayamprabha***, the number of channels were increased, and it has now more than 200 channels.

Based on the deliberations by the eminent educationists in the consultative Meeting the following recommendations were emanated.

Recommendations

1. India had addressed the challenges of pandemics and is fast recovering from the impact. The internet is an essential component of the post covid education scenario and reach to every student through significant investment in the technology.
2. The Wi-Fi should be enabled so that any disruption in physical system does not stop teaching-learning
3. The role and importance of technology has been realised during Pandemic and the role of technology will further enhance even during post- pandemic era.
4. The universities and academic institutions should be provided more regulatory freedom and flexibility to determine what could be done in the best interest of the students.

5. Online education must be promoted, but mediocrity must be taken into account.

6. Within Indian context, the course instructor has always played a central role in traditional classrooms by acting as an authority on the subject-matter. The online format presents an opportunity to come out of this model and engage with students as active learners, while not being physically present within the same space. Instead of delivering a lecture, the course instructors need to focus on using flipped classrooms. In this approach the faculty can assign the theoretical component as pre-reads for the class and utilize the classroom time for practical applications including discussions on real-life case-studies, solving numerical problems, or any other practical component associated with the course. The goal should be to ensure engagement of at least as many students as that in physical classrooms. To plan the methodology, the faculty may want to perform a rough analysis of their class to understand the population of students. The following categorization may be used -

    a) ***Category 1*** - Self-motivated students who can remain highly engaged, and have the desired infrastructure

    b) ***Category 2*** - Self-motivated students who can remain highly engaged, however, do not have the desired infrastructure

    c) ***Category 3*** - Students with average interest in regular classes due to their inhibitions, however motivated to engage in online classes due to lesser social anxiety and more engaging multimedia content

    d) ***Category 4*** – Students with low interest in general

7. Based on this analysis, the faculty may now choose the way to customize the content, use creative means to engage students, and most importantly decide the delivery methodology required to deliver the class.

8. The other Two parameters which the institution can consider based on feasibility are:

    a) ***Class size*** – Class size reduction will enable a stronger faculty-student ratio and therefore ensure higher- quality teaching. The online classes may prompt universities to merge sections, thus, increasing the class size. This can be counterproductive unless compensated by other avenues for interaction and doubt clearing by students (synchronous or asynchronous).

    b) ***Class duration*** – Shorter classes can help ensure a better attention-span of the students and therefore better engagement. However, given its inversely proportional effect on the number of classes students may have to attend, this should be carefully evaluated before implementation.

9. Under the conditions of continuing education from home, students will not have access to libraries, reading rooms, or hostel rooms. The studying and reading environment in various households given the presence of multiple family members or space limitations may not be conducive for focused reading of long texts. This could limit the concentration and attention span of students during the off-class studying and thereby pre- reads and post-reads can be highly ineffective. In fact, even the most motivated students in the class may find it tough to navigate the traditional text-heavy content, especially if they do not have access to physical textbooks. Thus, the course content will need to be modified to limit the

duration required to read the material, use diverse formats of content delivery and also suit the digital screens.

10. In order to achieve this, the following techniques may be utilized:

    a) Use of short length pre-reading material, and more engaging digital content (including videos, podcasts, audio books etc.) that students can consume under constrained conditions will prove useful.

    b) Faculty can utilize the highlight feature of PDF readers or mobile applications (like Pocket) to highlight the most relevant text to help students with pre-class readings.

    c) Sections of videos or podcasts can be time stamped for relevance to the course.

Theme - II

Higher Education and the SDGs (Sustainable Development Goals)

Preamble

Since the announcement of the National Education Policy, 2020, India ushered several educational policy reforms in the country. While the focus is on overhauling the entire educational system in the country, with a rejuvenated focus on equitable access to quality education, any forward-looking policy should address the issues of sustainability. The United Nation's Sustainable Development Goals (SDGs) has emerged at the global platform, the benchmark to conceptualize, implement and assess policy initiatives in sustainability. It is inevitable that NEP 2020 not only addresses the issue of sustainability but also makes it the undertone of the reforms undertaken in the education sector. While more often than not, the role of school education in the achievement of SDGs is recognized, what is not discussed enough is the role of higher education (HE) in realizing the SDGs.

The objective of the Report is to provide a conceptual framework situating the role of HE in SDGs and discuss various policy initiatives undertaken in India. The Report also raises critical issues pertaining HE in the country which possibly highlights both opportunities as well as challenges for HE playing a substantial role in the fulfilment of the SDGs in the future.

1. Higher education and sustainable development goals: A conceptual framework

To begin with, HE for a sustainable future is compelling for the people, resources and systems today. However, what meaning sustainability takes depends upon the immediate context, time, space and culture. When United Nations came out with the 2030 Agenda for Sustainable Development in 2015 and set out the Sustainable Development Goals, the emphasis was on a plan of action for people, planet, peace and prosperity.

The SDGs are a set of schematic presentation of objectives that address the global challenges of poverty, inequality, hunger, health crisis, poor quality education, gender disparities, lack of clean water and sanitization, dearth of clean energy, unemployment, scarcity of infrastructure, over-consumption and over-production, climate change, marine pollution and depleting coastal biodiversity, deforestation, war and conflict-related crisis and lack of financial resources. The 17 SDGs, therefore, addresses the above-mentioned challenges.

Drawing from McCowan (2019), HE can contribute to the SDGs through the following five modalities–

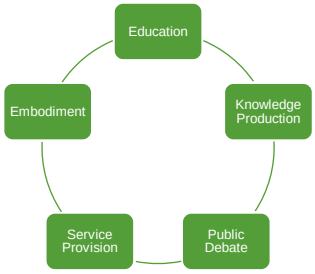


Figure 1: Five modalities in which higher education can contribute to the SDGs

Source: McCowan (2019: 220)

2. India on the cusp of policy transformation amid pandemic: What's in it for a sustainable future?

As India has launched its forward-looking New Education Policy 2020, it becomes pertinent to question, what's in it for a sustainable future? Can we have a forward-looking policy without addressing the objective of sustainable development? At the core of the NEP 2020 agenda is a pledge to SDGs. According to the NEP 2020:06, the vision of the Policy is to *instill among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen."* The NEP 2020 echoes the larger SDG related policies adopted by the Government of India. The following section provides a snapshot of these initiatives.

India's commitment to the SDGs and a Dedicated SDG vertical at the NITI Aayog

The SDG Vertical, in collaboration with Union Ministries and States/UTs, is the nodal agency for coordinating and monitoring the SDGs. The Vertical works closely with key stakeholders—including the Government, civil society, private sector, academia, think tanks, research organisations, and multilateral organisations—to fast-track the achievement of SDGs in the country. Following schematic representation summarizes the current projects at the SDG vertical of the NITI Aayog as of February 2022.

' *Source: The above conceptualization is based on the McCowan model (2019: 220).*

Government of India and United Nations Sustainable Development Framework 2018-2022:

NITI Aayog and United Nations in India released the Sustainable Development Framework for 2018-2022 which reflects the pledge and determinations made by India towards attaining the Sustainable Development Goals. The Framework contextualizes SDGs concerning India's national priority.

The National Multidimensional Poverty Index Project:

India ranks 66 out of 109 countries in the Global Multidimensional Poverty Index (MPI) 2021. The National MPI Project is aimed at analyzing the Global MPI and producing a globally aligned yet customised India MPI for drawing up comprehensive Reform Action Plans with the larger goal of improving India's position in the Global MPI rankings. HEIs can reach out to their immediate community to address the challenges covering aspects of health, education and standard of living.

The national SDG India rankings are based on 115 indicators aligned to the ministry of statistics and programme implementation's National Indicator Framework (NIF). According to the SDG India Index 2020-21country's overall SDG score improved by six points i.e. from 60 in 2019, it increased to 66 in 2020. The improvement is driven by development in two aspects–Goal 6 (clean water and sanitation) and Goal 7 (affordable and clean energy). It would be interesting to see how HEIs can contribute directly to improving the SDG India Index. In 2020-21, the best-performing state was Kerala and the worst-performing state was Bihar.

SDG Localization:

India adheres to the notion that there is no one agreed way of localizing SDGs. Yet, nations can benefit from learning from each other's best practices. It is of utmost importance that SDGs localization processes require a multi-actors approach with a substantial role played by local governments, authorities, agencies, communities and civil society. Aspirational districts programme in India is monitoring the performance of 112 districts on a few aspects of SDGs, as it puts concerted efforts for their capacity building and development.

India Review: High-Level Political Forum on Sustainable Development

As a signatory to the 2030 Agenda for Sustainable Development, India is committed to participating in the international review of the progress of Sustainable development Goals (SDGs)regularly. The foremost platform for international follow-up and review of the 2030 Agenda is the United Nations' High-Level Political Forum (HLPF), which has been meeting annually since 2016 under the auspices of the UN Economic and Social Council (ECOSOC)' (NITI Aayog website).

While several policy initiatives are underway as India commits to the SDGs, specific conceptualizations, policy efforts and trajectories in the Higher E sector are discussed in the following sections.

3. Relevant research agendas for human development

Indian HE system aims to contribute to SDGs by revamping its research agenda. The following schematic representation presents a conceptual framework for a multidisciplinary approach

towards knowledge production. Echoing the germane goals of NEP 2020, a multidisciplinary approach in research for achieving SDGs will be a forward-looking step.

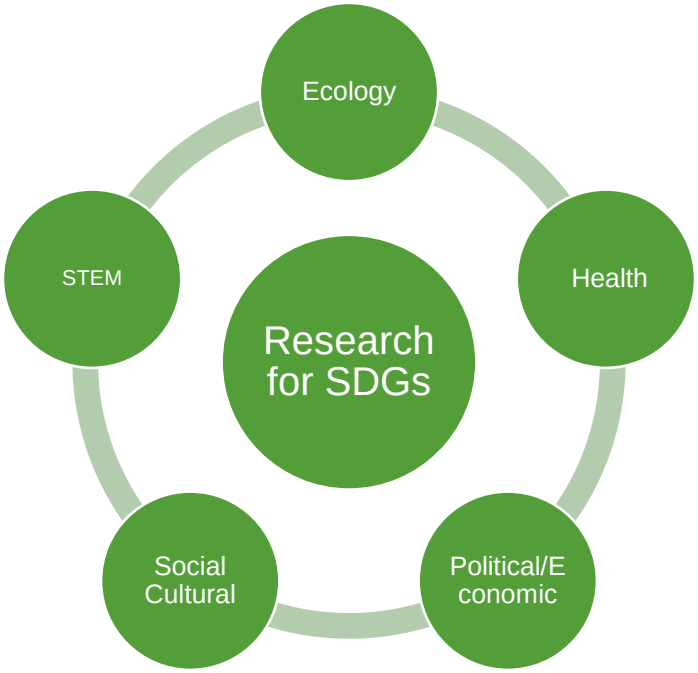


Figure 3: A conceptual framework for multidisciplinary research

Source: Adapted from Batterman et al (2009)

The above conceptual framework represents an approach of multidisciplinary research for SDGs. Batterman et al show how research on the topic of sustainable control of water-related infectious disease requires a multidisciplinary perspective from ecological, health, political/economic, social/cultural and STEM knowledge resources to holistically explain the pertinent aspects of the research problem in hand. A few possible areas of research in frontier technologies for SDGs are represented in the following table. The table also presents challenges for developing countries for achieving the full potential of those technologies and what role HEIs can play in fostering those technologies.

4. Global citizenship: embedding the 17 SDGs in teaching, learning, research

The concept of Global Citizenship and the importance of local community engagement

There are two dimensions of citizenship one related to the public authority and the second is citizenship exercised within communities. The rights & responsibilities between the social associations of society are building blocks of citizenship. Therefore, citizenship should not be limited to national identity. If the discussions about citizenship are limited to state conferred identity, we can never achieve global citizenship. As global citizens, we can exercise the horizontal dimension of responsibilities and duties without referring to a supranational authority.

The distinctive features of HE as a space for teaching global citizenship education

HEI's have been an ignored space for citizenship education. Traditionally, the school level is considered as a vehicle to teach citizenship education because everyone goes through that stage. In contemporary times, HE has expanded its role as it is more widely accessible and expanded in low and middle-income countries. Now, with more young people going to universities it is more important than ever for the HEIs to take responsibility for civic education. HE is a space for contact across diversities. Therefore, HE is a key space for learning about global citizenship. HE offers opportunities to students beyond boundaries.

The developing world context for teaching global citizenship education at HE level.

Can we teach global citizenship as a course in universities? If a state prescribes a syllabus or curriculum to teach at universities some students might take it and some might not. Some can be motivated by it and some might not. The general purpose of education is not simply acquiring skills but also acquiring other-regarding values that are required to become a global citizen. HE needs to figure out how to internalize faculty and students as part of the whole world. One cannot learn global citizenship by a course but by engaging, showing solidarity in support of unknown distant others by sharing humanitarian values with them.

Universities embodying SDGs as values

It is essential to build ethics in the professional area as a place of reflection. Universities can practise what they preaches, embodying SDGs as values by the way they treat their staff, gender inclusion, reducing their carbon emissions, etc. Therefore, universities can preach what they say and make students learn by the examples within the university itself.

Coming together of ideologies to adopt the concept of global citizenship.

The goal of HE is not only progress and development but to help students become an end in themselves. HE is a space of critical thinking which enables students to realize their potential. The purpose of HE is to enable students to examine and not just prescribe ideologies. If universities prescribe particular ideologies, it can be dangerous. Universities can be a space to discuss and debate ideologies and ideas but not prescribe one and deny another.

The space of improvement in NEP to promote global citizenship

While NEP 2020 is a forward-looking policy, it requires concrete action in terms of both budgetary allocation and substantive reforms and involvement of stakeholders in HE to take global citizenship education seriously.

5. SDG-4 Quality in higher education and capacity building for research in HEIs

The following table summarizes the capacity-building research initiatives undertaken by the ministry of education, India.

Table 4: Capacity Building Research Initiatives by the Ministry of Education, India

Initiatives	Objective	SDGs directly addressed
COVID-19 Research and Support Initiative at NIITs, IIEST, Shibpur, IITs and IIIT	Continuity of research during the COVID-19 by doing research in areas such as Personal Protective Care Equipment and Sanitization.	3,4, 6
IMPRINT Round 2 (Impacting Research in Technology)	Engineering intervention and technological innovation in the area of energy/physical/cyber security, potable water scarcity, environment and climate change, poverty, affordable health care for billions, sustainable habitat, advanced material, nanotechnology, information and communication technology, manufacturing technology, security and defence.	3, 4, 6, 7, 13, 15,
Research Parks	7 Research parks are established across IIT Guwahati, IIT Delhi, IIT Kanpur, IIT Kharagpur, IIT Bombay, IIT Hyderbad and IISc. They will serve the following purposes: collaborative R & D; act as a Center of Excellence; will work on several National Mission Projects and set up laboratories, incubation hub, Research cum Academic Hub; and act as a center for technology development and transfer.	3, 4, 6, 7, 13, 15
FAST (Training and Research in Frontier Areas)	36 Centers of Excellence have been set up under FAST Scheme which focuses on frontier research topics such as energy, water, clean environment, smart materials that promote sustainable development.	4, 6, 7, 13, 15
GIAN (Global Initiative of Academic Network)	Short courses (1-2 weeks) are offered by international faculty in Indian Institutes to garner the best international experience into our systems of education, enable interaction of students and faculty with the best academic and industry experts from all over the world and also share their experiences and expertise to motivate people to work on Indian problems.	4
SPARC (Scheme for Promotion of Academic and Research Collaboration)	Research collaboration with foreign institutes in top-500 QS-2020 World University Ranking or the top-200 QS-2019 World University Ranking	4, 17
IMPRESS (Impactful Policy	Research projects in policy domains such as State and Democracy, Urban Transformation, Media, Culture and Society	4, 11

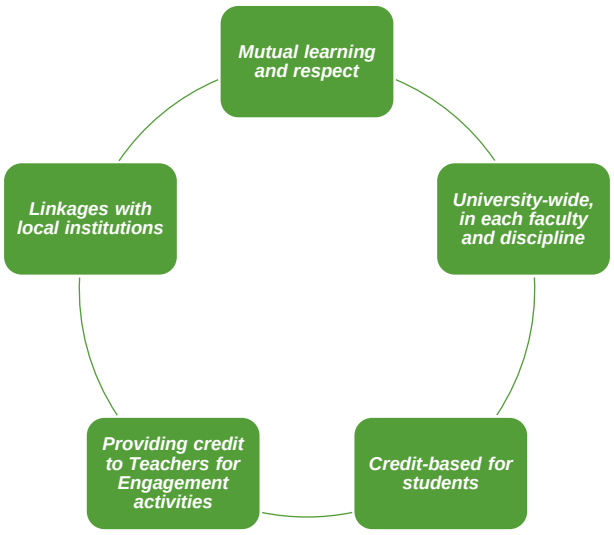
Research in Social Sciences)		
STARS (Scheme for Transformational and Advanced Research in Sciences)	Scheme for Transformational and Advanced Research in Sciences (STARS) for promoting translational, India-centric research in Sciences, to be implemented and managed by Indian Institute of Science (IISc), Bangalore.	4, 6, 7, 13, 15
STRIDE (Scheme for Trans-disciplinary Research for India's Developing Economy)	As a part of the quality mandate, the University Grants Commission (UGC) is proposing STRIDE - a new scheme to promote quality research by faculty and students in thrust areas of humanities and human sciences including arts, Indian languages, culture and knowledge systems	4

Source: MoE India website

The third mission of HEIs: community services and local practices adopting global perspectives

The National Curriculum Framework & Guidelines on Fostering Social Responsibility & Community Engagement in HEIs in India published in 2020, is a University Grants Commission's influential initiative. It emphasises the importance of socially relevant courses, familiarizing students with India's rural economy, rural development schemes and aims to improve these efforts. The framework identifies the following principles for community engagement of HEIs–

Table 5: Principles for community engagement of HEIs



Source: UGC, 2020

HEIs can connect with the immediate community in several ways. These ways are enumerated in Table 6 below.

Table 6: Higher Education and Ways of Community Engagement

Linking learning with community service	Linking research with community knowledge	Knowledge sharing and knowledge mobilization	Devising new curriculum and courses	Including practitioners as teachers	Social innovations by students
Employing the 'service-learning' model, HEIs can involve in teaching, learning and research activities addressing community concerns.	Partnering with neighboring communities and local agencies, HEIs undertake joint-research.	Education, training and awareness of the local communities by the resources of the HEIs.	Including local knowledge system and indigenous experiences into the curriculum in HE.	Inviting, involving and recruiting local practioners who have expert information about mechanism on the ground.	Inculcating entrepreneurial acumen among the students and research scholars, by investment of financial and physical resources, encouraging projects with social impact.

Source: UGC, 2020

HEIs can no longer afford to remain within the ivory towers of excellence Academic excellence is meaningless without the real engagement of the immediate community in which HEIs are situated. An intellectual prowess needs to be co-created with the local actors and agencies, resonating with the local needs, as HEIs aims at addressing global imperatives. Local connectedness and global engagement should become the motto of every HEI.

6. Recommendations

The role of HE towards the path of SDGs is pertinent. No nation can achieve SDGs meaningfully, without the active participation of the HEIs, faculty, learners and non-teaching staff. HEIs are unique institutions, capable of sensitising local communities towards SDGs. Through teaching and learning, SDGs can be brought into the curriculum and the course manual. HEIs can spur public debate about SDGs and become the flagbearer of promotion of the idea SDGs at various local, national and global platforms. Faculty and researchers can make SDGs their priority as they choose their research areas and topic. They can adopt a multi-disciplinary approach to address a number of challenges grappling the world today. Therefore, meaningful connectedness of HE for SDGs requires macro-meso and micro-level approaches.

While the role HEIs is paramount in achieving SDGs, it is pertinent one adopts a self-reflexivity approach by the HEIs, to assess and introspect their own degree of embodiment of SDGs in their everyday policies and practices. To what extent, HEIs are able to embody SDGs in their day-to-day operations require a critical self-reflection. The following table might be a useful framework for the same.

Theme-III

Inclusion in Higher Education: Suggested Model

Preamble

Only a small fraction of students in India are fortunate enough to receive a quality education. If this education empowers them financially, but fails to instil in them basic moral values, there is a risk that these students, when they go out into the world, may contribute to worsening inequality, asymmetry, environmental damage, corruption and other problems that negatively affect the lives of others. An educational system must be designed so that the outcomes of education and students' success in life, lead to the greater good of the planet – which includes more equality rather than inequality. Inclusivity in education must contribute in a sustainable way to the creation of peaceful society.

The concept of *systems thinking* needs to occupy a central position to create harmony and peace. Taking a systems approach to inclusivity, one must consider three aspects: the input, output, and process. At the input level, there must exist equal opportunity with similar resources for one and all. No individual should be excluded for any reason -- whether it be their economic class, caste, gender, or simply their lack of political/bureaucratic connections. At the output level, competence, capacity, and capability in one or more areas along with a strong value system must be achieved. The process must be outcome-directed which means that from the Vision and Mission statement to the individual course outcomes, not only should inclusiveness be pervasive, but also be a guiding principle.

Status of Inclusiveness in Higher Education: Policies in place

The National Education Policy, 2020 has conveyed the structural change in the education system which aims to make India the global knowledge superpower ensuring Equity and Inclusion. The policy can be summarized, as

> "a new programme of comprehensive, integrated and interdisciplinary education which will afford our students opportunities to get not only a first-rate broad-based academic education, but to learn some craft or industrial technique or learn to till and toil with their own hands and to imbibe basic human values and a spirit of tolerance and respect for the religious faith and belief of others, and above all, to get prepared for the service of mankind with devotion and dedication, thereby combining the much-sought excellence with the much-needed relevance of the day."

A conceptual model for *Total Quality Management* that defines an institutionalized quality control mechanism that permeates all its processes is the need of the hour. The model is divided into four quadrants: innovation, creativity, excellence, and initiative; and conceptualizes key practices and measures leading to quality education. Crucially, these measures include assessing to what extent our activities are economy-oriented and relevant to societal needs.

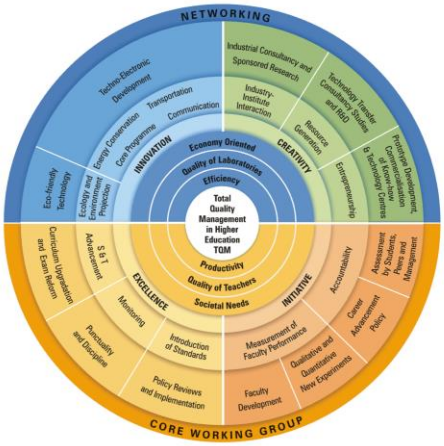


Figure 1 Total Quality Management Model

This model of education presents strong interactions between several educational sub-systems which form its multi-board system. These six pillars, and their subsystems, that define the multi-board nature are shown in Figure 2. These subsystems are distinct but well-knit, implementing what we call a *Dynamic Education Model with an Integrated Systems Approach*. This results in the integration of education from pre-nursery to Ph.D. on one side, and skilling to entrepreneurship as part of formal education on the other.

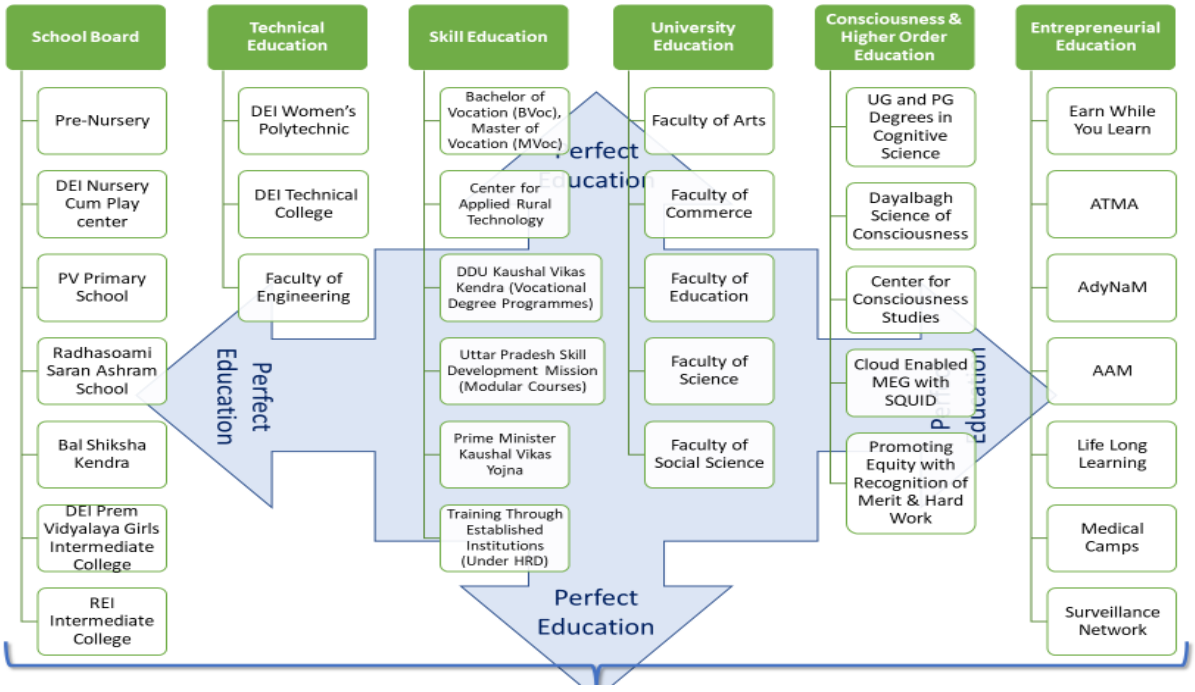


Figure 2 Six Pillars of Education

Leaving no one behind: enabling vulnerable groups to enter, transit and complete HED

The core principles are based on the belief such as excellence with social relevance, imparting values-based and quality education, intending to reach the last, the least, the lowest, and the lost; contributing to nation and community by empowering weaker sections, women, and children; and building the economy through research and frugal innovation.

A large fraction of India's population is below the poverty line, and many other families also struggle financially. Moreover, much of India's younger population comes from a rural background. To proactively include these students, we must understand, and not underestimate, the challenges that they face. Finances lead to two distinct obstacles to education: (1) the simple inability to afford the cost of not only fees, but other indirect costs like travel and accommodation; and (2) an opportunity cost for education: young people may also feel compelled to work to support their families, and therefore cannot afford to spend 4 years in education instead of in employment, particularly when employment after education is not guaranteed. Let us emphasize that this opportunity cost could be present even if education was free, and also acts as a severe psychological barrier for students. The systems approach to education directly acknowledges and addresses these barriers.

Enhancing gender equality in Higher Education

The inclusion can be addressed in several ways to create a model of education which accommodates all asymmetries and biases by creating women empowerment in tribal and rural areas. Equal opportunities are required all individuals irrespective of gender, race, caste, colour, creed, language, religion, political or other opinion, national or social origin, property, birth, or other status. The unique work-culture, healthy traditions, and ethos can lead to higher women participation leading to Adequate representation in administration and Increasing enrolments in scientific and technology as course stream, which will break the stereotypical image of women.

The government has initiated several policies for promoting girls in education, such as *Beti Bachao Beti Padhao*; Sukanya Samridhdhi Yojna; CBSE Udaan Scheme; Mahila E- Haat; STEP (Support to Training and Employment Program for women. The faculty members and students of the Human Rights can visit villages, gather women, children and develop their entrepreneur skills. They can train them in making handicrafts, sewing work, etc. We believe in the idea of *Atmanirbhar Bharat*, hence promoting women's entrepreneurship which further aims to help them live with dignity and respect. While pursuing the national policies of gender equality in education, an institute needs to simultaneously fulfil global norms and approaches towards a more inclusive and egalitarian society.

The value of ethnic, multicultural diversity in Higher education

The students shall be empowered by education to transform their own lives and the world around them. the educational institutions must inculcate moral and spiritual values in students. The education policy identifies certain key values we aim to develop in our students: emotional maturity, ethical values, a habit of simple-living, eagerness to engage in selfless-service of humanity, humility, truthfulness, a belief in the dignity of labour, and a high moral character. Core courses coupled with Government initiated programmes such as *Swachh Bharat Abhiyan*, Fit India

Movement and ***Unnat Bharat Abhiyan*** help develop a high sense of discipline, scientific temper, team spirit, cooperation and tolerance, habits of industry, self-control and perseverance in the face of adversity, a spirit of self-sacrifice and selfless service to the nation.

Flexible programmes to integrate population with special needs

The educational system can even go beyond a multiple-entry, multiple-exit system, and form a system with *multiple pathways and 360-degree transitions* integrated with vocational education and skilling. A lateral entry program allows the brightest students from skilling, vocational and diploma programmes to compete for "lateral entry" into more advanced degrees.

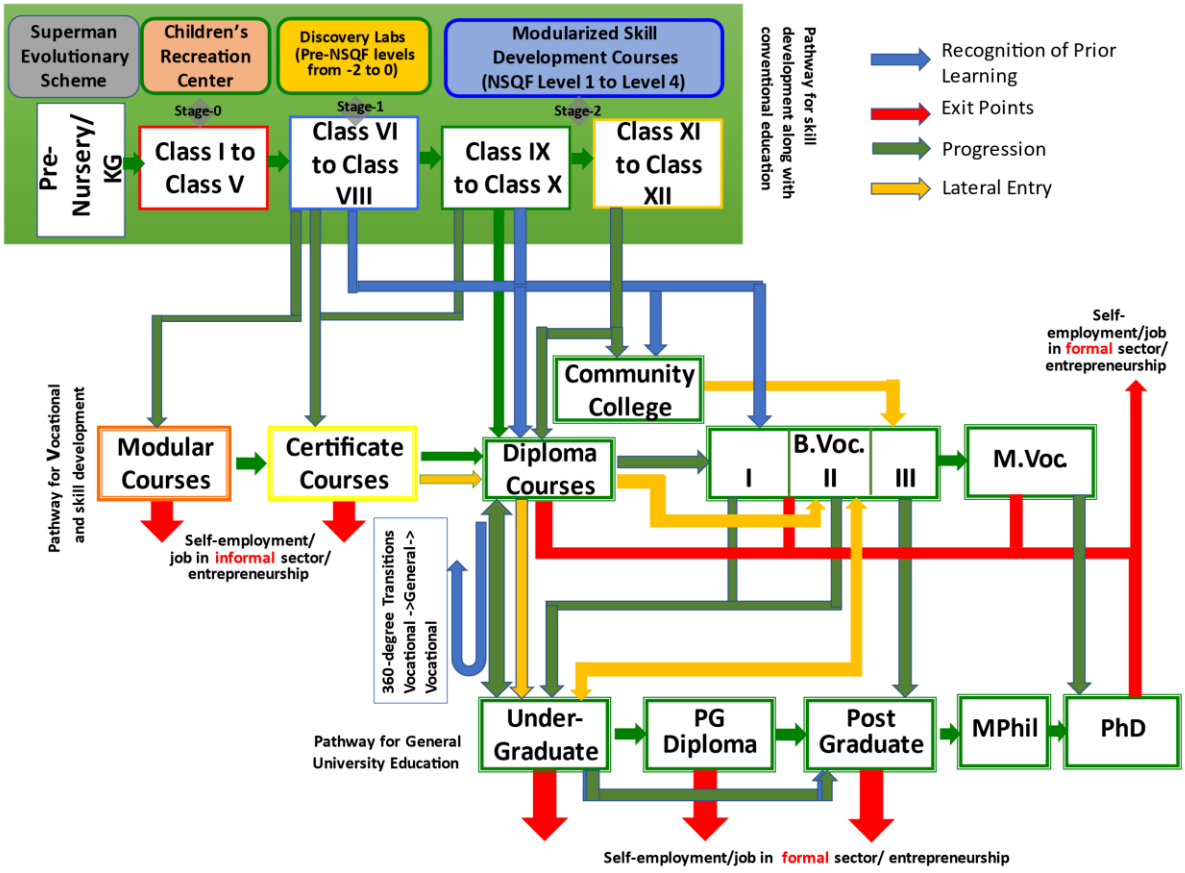


Figure 3 Education System with Multiple Pathways and 360-degree Transitions

Core Courses, interdisciplinary courses and work-based Training Courses allied to major subjects are an integral component of all undergraduate programmes, as are courses with specific emphasis on Consciousness Studies and Entrepreneurial Studies. An often-overlooked form of inclusivity, which our systems approach addresses, is ***inclusivity of all age groups***. By including all age groups; we can increase opportunities for all groups, particularly the most disadvantaged.

Innovative Initiatives may be included in the curriculum like Seminar and Group Discussion, Peer Mentoring, Labs like i-c-n-c TALL, counselling, and soft skill courses, developing communication and presentation skills of the students. Learners from an early age can be exposed to different languages for promoting multilingualism. A full ecosystem for online delivery of education can be deployed for fully online delivery of courses. Even after the pandemic ends, educational institutions must recognize that education at one's doorstep eliminates numerous indirect costs -- such as the cost of travel and accommodation -- as well as the often-unacknowledged cultural shock faced by India's rural and low-income students who opt for higher education.A system of trans-disciplinary research divisions, which exist in parallel with traditional academic department can be created. These can be focused on streams like *Agriculture*, *Entrepreneurship*, *Esoteric Art and Science*, *Digital Life*, *Thinkism* (transgressing towards a community of thinkers and not followers), *Life and Mathematics*, *Sustainability*, *Classical Studies*, and *Maintenance Network*. Trans-disciplinary research often leads to the inclusion of research problems and topics that were, perhaps inadvertently, excluded from the traditional division of academia.

Diminishing inequities, promoting diversity and maximizing outcomes for all graduates

The HEIs should constantly reform and transform the educational content with the aim to:

- assist students in practising new skills or knowledge by providing opportunities for guided practice (example: Trans-disciplinary, Multidisciplinary Courses) and encouraging them to be cognizant of their personal strengths and capabilities with respect to possible career paths (example: Career Counselling and Global Alumni Network);
- aid students to develop an understanding of national heritage and goals (example: Multidisciplinary Medical Camp, NSS, Scout-Guide Camp, Blood-donation and NCC Units);
- engage all stakeholders effectively through shared problem solving and conflict resolution and create worthwhile opportunities for students, their parents, and community members to share their learning, knowledge, and skill with the organization (example: Teacher-Parents Interaction, Community Engagement, Outreach & Extension Services as Mainstream Education);
- set up partnerships with other institutions or societies to develop resources to enhance students' career opportunities and achievement (example: MoUs with Industry and Institutions, NGOs like SPHEEHA, AADEIs and AAFDEIs Network);
- demonstrate care and respect for students by maintaining positive interactions across the social strata (example: Gender and Social Diversity, Women Empowerment, Reservation for Scheduled classes).

In pursuit of maximizing outcome for all its students, the following steps institutionalized.

- Employ effective questioning techniques that encourage higher-order thinking skills (example: Centres of Excellence - Quantum-Nano and Consciousness, Research-Divisions on Sustainability, Thinkism, Bio-Inspired Systems).
- Use a variety of assessment strategies and instruments to make both short- and long-term decisions to improve student learning (example: Co-op and Modular Education).

- Use different motivational strategies to encourage students in developing competence in all areas (example: Open-Day, Research-Day, Values & Quality Day, Innovation-Day, Entrepreneurial/ Start-up contests, Cultural and Literary Fests, Youth parliament, Youth Festival, Games & Sports).
- Modify programs to fit student needs by making topics relevant to students' lives and experiences and Applies knowledge about how students develop and learn physically, socially, and cognitively (example: Case-Study, Role-Play based Teaching, Dissertations and Projects, Summer Training/Co-op Training, Multi-Skill Winter Camps).
- Encourage students to improve their attainments, develop their social personalities and at the same time contribute to community welfare (example: Soft-skill Development program, UNNAT BHARAT, National Service Scheme, Medical Camps, Core-course on Scientific methodology, General Knowledge and Current Affairs).
- Encourage students to participate in extension, co-curricular and extra-curricular activities including community service (example: Hindi, Sanskrit, English Drama Festivals, Students-exclusive Conference and Workshops, PARITANTRA, Systems Society Membership).
- Inculcate among students a scientific outlook, discipline and respect for time and physical labour as well as ideals of democracy, patriotism and peace (example: Rural Development and Agriculture Operation-Activity camps, Morning Assembly, Non-denominational Prayer, Uniform, Attendance and National Day-celebrations).

Conclusion

At a time, when the Universities around the world are looking at re-modelling their traditional operational mechanism, rethinking educational delivery, planning low-cost-high-efficiency models, and are failing to initiate their academic years or attract students and retain faculty, the HEIs needs to move beyond education and ensure the creation of a complete healthy habitat nurturing all organisms and the whole ecosystem. The notion of inclusivity should be cardinal to the institutes' policy to mould its students into a 'Complete Person' (physically fit, mentally agile, socially responsible), inculcating in them a value system; entrepreneurial skills for self-support and making them socially responsive which will lead to a better and peaceful world with a sustainable future.

Recommendations

- The suggested models can be replicated by others, to make non-exclusive and all-inclusive education a universal reality in India and around the globe.
- To develop inhouse technology solutions to solve local problems instead of chasing research goals set by the international agencies.
- Well defined mechanism to conserve the rich heritage of India is required. we should promote research and innovation to leverage our cultural heritage at global platform.
- Established Universities /IITs must share their resources with other institutes of higher learning to create inclusivity at large.

Theme - IV

Quality and Relevance of Programmes

Preamble

The global pandemic has recalibrated our lives in an unprecedented manner. Educators all across the globe are having a level playing field in terms of providing value education to the students under the unprecedented circumstances that we are facing today. The pandemic has forced the global academic community to explore new ways of teaching and learning. The situation, however, could become an opportunity to reflect upon curriculum, rethink teaching-learning-assessment processes, re-engage with the stakeholders, and reboot the development of learners' competencies with a view to strengthening their learning skills for meeting the demands of Industry 5.0. Education is expected to help learners identify, enhance, and utilize their rational, creative, social, and moral powers in a manner that fulfills them individually as well as facilitating development of community, society, Nation, and world at large. Such empowerment would lead to independence or autonomy in thought or action. Quality and Relevance concerned education would, therefore, emphasize independent, analytical, and creative thinking that leads to transformation of the learner to become an autonomous and responsible actor in human affairs. Quality and Relevance in education is the point where human skills and interests, technology, management, and the social and business environment all converge.

It is necessary to recognize the importance of all the major factors which contribute to or put barriers against the improvement of Quality and Relevance at the macro level in the educational institutions. University is the place where Quality and Relevance concerned skilled manpower development is really created. This is the place where the whole range of available knowledge and its applicability for quality living comes together to generate sustainable ideas and their suitable applications to make life worth living. Quality can be measured, to some extent, by the level at which learners achieve the knowledge, skills, and behaviours specified in the national curriculum. Society and parents expect more than good test scores; they also have expectations regarding students' attitudes and behaviour that are not easily measured but do affect public perceptions of the quality of education delivery. An important dimension of the quality of education is relevance. What is taught and how it is taught must be relevant, i.e. learning activities and environments must give learners the best possible opportunities for success and provide an appropriate curriculum and flexible delivery arrangements to meet their diverse needs. Quality education needs quality providers. The professional leadership and management of schools and institutions is key to ensuring that the support systems, environments and programmes offered meet the needs of learners and allow them to develop to their fullest potential. All education providers must offer appropriate and accessible study options in order to create a workforce that is technically and academically proficient. These options must address the future needs of both the learner and the country if sustainable, positive development, and economic growth is to be achieved. High levels of knowledge, competencies and skills are considered to be the very basic conditions for active citizenship, employment and social cohesion. Improving the quality and relevance of education relates to improving educational management, facilities, equipment, teacher/tutor competencies and professional development, curricular and resource development, and strengthening capacity in learner-centred and adult learning methodologies.

Diversification and Flexibility of Curriculum, Programmes, and Courses

Nations with high quality human resources would be counted among the front ranking nations of the world in the knowledge era. The fate of a nation depends upon the education of its youth. Broad based access to quality education is of utmost importance for achieving the goal of social political and economic equity enshrined in our constitution. Spread of education and enhancement of skills to the underrepresented sections of society is the need of the hour. Policy makers and curriculum framers must keep in mind the diverse background and numerous needs of 21st century learners.

The varied range of learners seeks certification, enhancement of skills, acquisition of professional qualifications, continuous education, and professional development at workplace, self-enrichment, upgradation of knowledge, and empowerment. All this requires diversification of curriculum and flexibility in terms of place, pace, and duration of study designing of courses and programmes.

Flexibility of a curriculum can become visible in terms of what learning entails and how, where, and when it occurs. Flexibility in the 'where' and 'when' of learning is preconditioned for including everyone in times of increased social mobility. A curriculum that offers students an opportunity to decide 'where' and 'when' they learn seems attractive to non-traditional students and students at distant locations. The degree to which the curriculum is accessible for all refers to the accessibility dimension of the curriculum. Flexibility in 'what' and 'how' of learning is perceived as necessary because students have different learning means which influence the teaching and learning process. Furthermore, society expresses different expectations for education. The degree to which the curriculum can be adapted to the needs of students and society refers to the adaptability dimension of curriculum.

Enactment of flexibility in the curriculum can be affected by student related, teacher related, and context related conditions. Teacher related conditions include attitudes of the teachers, skill set, and knowledge. Context related conditions that affect flexibility shows that the procedures and regulations often impede flexibility instead of supporting it.

Equally important for education is its diversification both within and across countries. The purpose, programme, financing, and curriculum of education are considerably more variable presently as compared to the past. The diversified curriculum offers academic challenges and prepares students to become flexible and committed to technical competence. Curriculum diversification offers opportunities for learners to be exposed to varied knowledge skills, attitudes, and values. Diversification of Curriculum contributes to the cognitive, affective and psychomotor development of the students.

Factors that will facilitate the diversification of curriculum with the essence of flexibility will include the learner, facilitator, institutional facilities and resources, the environmental factors, education system, the learning process of learners, and the available accumulated body of knowledge.

More flexible programme coupled with a strong academic advising structure allows young people to find strength, interest in the subject, and directions to change career trajectory if needed. It can allow them to develop the interdisciplinary prospective need to address key issues faced by society today.

The following are the key benefits of bringing diversification and flexibility in curriculum, programmes, and courses:

- Better learning, better access, and better student experience
- Allows individuals to learn the way they like, where and when it suits them which develops more adaptability
- Access needs of wide range of learners are met, it also builds confidence and independence
- Responds to the preferred style of learning of different learners
- Improved learning outcomes resulting from evidence-based and technology enabled teaching methods
- More choice and different types of learning: online, face to face, blended, MOOCs, on campus or off campus
- More global learning options, teachers will learn new content delivery methods, assessment strategy, and use of technology to enrich pedagogy

Expanding use of ICTs and AI to enhance learning and collaboration

Information and Communication Technologies (ICTs) is an umbrella term which encompasses all communication technology that provide access to information. ICT has made an impact on all aspects of education and most importantly the teaching learning process. According to the new National Education Policy (NEP) 2020 the relationship between technology and education is bi-directional. Technology enhances the quality of education and educational processes and these further enhance the quality of technology so they feed on each other. Digitization has led to disruptive transformation in the education system. This has opened up challenges as to how to imbibe ICTs for enhancing the learning environment for students thereby fulfilling the goals of equity and inclusive education.

NEP 2020 talks about the increased access to education by 2035 which can only be realized by incorporating technology in education in terms of offering online education through MOOCs. World over, the mechanism of online education and MOOCs is being looked upon as the ‘best of the countries addressing the rest’. It can also address the challenge of making education accessible for all.

During pandemic, various online platforms have been used by education institutes in India like zoom, google meet, etc. More than 2000 MOOCs have been developed in India and have been uploaded on the Swayam platform.

However, the existing digital platforms and ICT based educational information must be optimized and expanded to meet current and future challenges in providing quality education. From the chalk and duster model, we are now using the flipped classroom. To be successful in using flipped classrooms, we need to integrate it with the concept of Bloom's Taxonomy which states that learning is six level hierarchy starting from remembering/understanding and ultimately culminating into creativity. The tools and technologies of education may change but ultimately the goal of education remains the same, that is to produce good human beings who are responsible

citizens and competent professionals. To excel in every domain, we need creative minds. The usage of ICT in higher education should enable the learners to create solutions which are breakthrough and disruptive. We have to shift our focus from rote learning, scoring high marks in examinations to encouraging thinking, innovation, and creativity among our students. A report by NASA states that 98% of students who enter Kindergarten think differently but once they go through the education system and at the age of 25 when they come out 98% think alike. Why should this happen? As educators, we need to encourage inquisitiveness among our students and ICT tools and techniques have a great role to play in creating AI based customized and personal learning experiences for students mapped with their strengths and weaknesses.

Knowledge is growing very fast in today's time. ICT is helping in revision of syllabus as various consultative meetings are done online, conducting research as literature review can be done easily through electronic database systems, and professional development of teachers as various refresher courses and orientation programs are organized online. So in nutshell, we can say ICT has impacted all areas of Higher Education but one thing which needs to be kept in mind is that technology in education is a journey and not a destination. Teachers are real change agents. Quality of an educational system cannot exceed the quality of its teachers. Until and unless we empower our teachers, we cannot improve the quality of education. Technology should be employed for capacity building of teachers. Also, IT based solutions must be used in higher education institutions for improving governance, monitoring processes, and accelerating innovations.

Following are the areas where ICT is expected to help the higher education system:

- Creating learning environment such as education simulation, educational games, augmented reality
- Developing social technologies, social networking which enables knowledge sharing and peer tutoring
- Developing high standards in a programme
- E-learning tools like web lectures, auto assessment, web notes, instructor interface, and self-assessment
- Intelligent educational system with personalized modules through analytics of strength and weakness of learners

Universities are at the cutting edge with industries in creating new science, new medicine, new engineering, and new technology connecting humanity on global scale. The current times offer opportunities for unprecedented intersection of human characteristics (like compassion, dignity, empathy, ethics, kindness, trust, and respect) with Machine intelligence. There are six major issues posed by Industry 4.0 where Universities have major role to play in addressing them, firstly, the Universities have to prepare the students for the rapidly changing job markets created by Industry 4.0; secondly, the Universities have to decide the minimum body of knowledge that a learner needs to possess before imparting him/her a degree; thirdly, sensitizing the students towards loss of human identity by over dependency on machines for taking day to day decisions; fourthly, to prepare the students to explore whether machines in future will exaggerate the human bias or

reduce it; fifthly, to identify the ways to maximize intended benefits and minimize unintended consequences of usage of technology, and lastly, to analyze whether technology will push us into a direction where we will lose the luxury of self-reflection and creativity.

Universities are at the epicenter of development and adoption of technology at an accelerated rate which leads to social stresses which is a significant impediment to the Universities as they have to ensure that they don't create a new class of inequality among students based upon digital access and opportunities.

Quality assurance of innovative higher learning modalities and spaces

Quality Assurance in higher education includes all policies, measures, plans, processes, and actions through which the quality of higher education is maintained and developed. Quality of education can be described as the degree to which education meets the client's needs and demands. In this respect, higher education has two different clients: students and society. The expectation of these clients differs depending on whether it regards academics as science and research driven or labor market demand driven, it is therefore obvious by putting the concept of quality into practice the further quality of programmes differ.

In the assessment of academic programmes, international scientific standards and research requirements are the benchmarks to be considered. In the assessment of the labor market demand-driven study programmes the main focus should be on the occupational standard i.e. the professional requirement, the labor market has agreed upon.

National Quality Assurance Systems are operational in nearly all the western European countries. At the National level, the Quality Assurance System contains an arrangement for systematic evaluation of study programmes.

There are five aspects that can be distinguished being the basic and common features of a national quality assurance system in higher education:

- National coordination by the independent center or agency
- Internal evaluation resulting in self-assessment reports
- Intermittent evaluation by the external experts partially based on establishment’s reassessment findings
- Publication of evaluation outcome including a recommendation for the improvement
- Implementation of the recommendations and assessment of the appropriateness and effectiveness of the quality assurance method and procedures, also called Meta evaluation

In the organization of quality assurance, the keyword is Independent Evaluation. The Quality Assurance System should be independent of state interference. It is the most important aspect from educational macro planning policy and from the particular interest of the individual establishment.

The reliability of the quality assurance system depends on the independence of the evaluation. Though the quality assurance system in the HAE Sector and in the HPE sector are basically the same it is obvious that in the further elaboration differences will occur related to the distinct nature and objectives of both these types of education. In particular this regard not only the performance indicators which structure the quality assessment but also the background or qualification of external experts involved in the evaluation.

In the HAE sector, the performance indicators and the expert chosen reflect the scientific and research objectives of the educational institution and in the HPE sector occupational requirement and are the guiding principle. For that reason, some countries have established 2 distinct quality assurance bodies or agencies. One for the academic sector and one for the HPE sector i.e., professional sector.

Regardless of the degree to which educational establishments are autonomous, in every country education establishments are considered to be fully accountable to the society.

Quality Assurance systems, therefore, are designed in such a manner that the establishment can give that account in a systematic and transparent way. Consequently, the outcomes of the evaluation are public and accountability in this respect is not only a formal matter more important than the formal aspect is the social aspect. In particular, this regards the professional sector being a relatively new phenomenon which in many countries still has to gain social recognition.

The experience in EU countries shows that a systematic approach in quality assurance resulting in public conclusions furthers a broadly based recognition from society. The other purpose of the National Quality Assurance System is the maintenance and development of quality. Since this is by definition the major concern of every establishment, quality assurance is quality driven rather than accreditation driven process.

This implies that at establishment level, the organization and planning of quality assurance are not determined by the accreditation cycle but by the establishment itself. Since quality is not a major but also a constant concern of their establishment. Internal evaluation will provide the establishment with the relevant information about its own performance, in particular the causes of the weak and strong points are identified by assessing the feasibility of the current strategy, the adequacy of the educational objectives whether it's relevant, achievable, and acceptable, the relevance of the study programmes, the effectiveness of the education and assessment methods, the competence of staff, effectiveness of both internal and external network, and the efficiency in the use of human, financial, and other resources. Based on the conclusions from the analysis, arrangements are defined and implemented in order to further the quality of the establishment and the study programmes. During consecutive internal evaluation, it will be verified whether these arrangements really have been implemented and if so whether they have resulted in intended effect. Internal evaluation or the self-assessment is, therefore, considered to be the indispensable management tool to ensure the quality. For that reason, the planning and organization of internal evaluation are designed in such a way that the quality assurance and institution decision making are integrated. Quality Assurance Systems in higher education at the most are unified at the national level however, all Western European Quality Assurance Systems are designed from the basic principle that the establishment is responsible for the quality of education and that the

assessment of the quality must be transparent, systematic, achievable, and verifiable. The Quality Assurance System provides a meta evaluation mechanism to evaluate their appropriateness and this function is often embodied in the Inspectorate of Higher Education. The Inspectorate does not evaluate the education but evaluates the mythology, techniques, and effectiveness of the quality assurance arrangement. Moreover, the inspectorate monitors whether and if so to what extent an establishment has implemented the recommendations resulting from the evaluation. Systematic introduction of quality, insurance, assurance in education forces the educational establishment to define the objectives very clearly and to involve the outside world in the assessment of the performance. In that respect, quality assurance will lead to the demarcation of the educational sectors, each of them with their own identity.

Partnerships for success: students, teachers, employers, communities

The success mantra of the present time is not competition but collaboration. At the higher education level, all the stakeholders including students, teachers, alumni, employers, and the community should be involved in the process of building a quality education. Learning should primarily be focused towards engaging the learner's intellect, emotions, and social connections and his physical body. Critical and reflective thinking are the core skills to be inculcated among learners. Partnership is a process for developing engaged student learning and effective learning and teaching enhancement. At its heart, partnership is about applying well-evidenced and effective approaches to learning, teaching and assessment with a commitment to open, constructive and continuous dialogue. Partnership involves treating all partners as intelligent and capable members of the academic community.

COVID-19 has brought to light the importance of resilient and long-serving partnerships, whether with industry, researchers, entrepreneurs, or governments. These partnerships are the lifeblood of a modern university, creating new opportunities, driving economic engagement, and promoting workforce development. In particular, partnerships between universities and industry will be vital as nations seek to rebuild their economies after the devastation of the pandemic – reskilling the workforce and rebooting the knowledge economy.

One key gap area which restricts the collaboration between academia and industry is that the corporate world is very target oriented. However, the pace of target is very different in the education sector. Secondly, the industry looks at the partnership with academic Institutions in the light of the expected return from the alliance. Like a retail company setting up a lab in a University would expect it to be treated as CSR from a legal point of view but currently there are no such guidelines provided by the government. So, there is a need to streamline the structural barriers which can encourage the corporates for academic partnerships. Thirdly, the industry looks at the partnership with academic institutions in the light of zeal and attitude of the institutions. Corporates are not looking for information dissemination from the Academic partners rather they like to carve out ways to bring attitudinal and cultural shifts and development of the right attitude. The thought processes of the forthcoming institutions need to be very clear.

In order to facilitate creation of new knowledge, teachers have to partner with their students, industry, and community at large. The education today doesn’t stand on the age-old premise of passing on hereditary knowledge; rather there is a need for disruptions to create new models of

imparting knowledge which can only be possible when the different stakeholders come together and build strong alliances.

Partnerships between industry and academia will be instrumental to advancing research and knowledge and creating a skilled workforce. As per the report of McKinsey, in the next five years 30 million jobs will be displaced and 70 million new jobs will be created. This serves enormous scope for the academia to form strong allies with the corporates in order to understand their skill demands and in turn creating an ecosystem of imparting those skills among their students. When industry and academia work in tandem, the former gains work-ready talent with specialist knowledge and practical training, and the latter gains by upholding the quality and relevance of the curriculum in line with the needs of the industry. Additionally, collaboration between industry and academia is key to catalyze innovation and growth in technology. While industry often focuses on addressing solutions that are of near-term commercial value and academia focuses on building new knowledge through research and imparting education to students, the combination can yield accelerated development of new breakthroughs.

Evolving Learning Skills for evolving Workforce paths

The global workplace has witnessed transformation due to rapid technological changes, globalization coupled with demographic and climate change. Recently, the Pandemic has posed serious repercussions on the workplace modalities. It has recalibrated how we live, how we work, how we learn, and how we relate to each other as human beings. Virtual work from home culture started as a necessity but has become the new norm for productive and flexible workplaces. Consumer behaviours, consumption patterns, travel priorities all have changed impacting business incomes, profitability which in turn has opened new opportunities and challenges for the workforce. All this is rapidly changing the demands of the world from students. What worked in the world yesterday may not work tomorrow.

Developments in Artificial Intelligence, Machine Learning, and Robotics are changing the job landscape, currently we don't know the top 5 jobs of 2030. The industry expects from our students that they think critically, they should be creative, innovative, able to communicate, and collaborate. The last two years have shown us that the most agile, resilient, and adaptable have survived. Creating new values and reconciling tensions and dilemmas are two important categories of competencies for future-ready students. Creating new value mainly refers to cultivating the creative thinking, while reconciling tensions and dilemmas refers to the ability to apply knowledge of both broad and specialized kinds, to meet complex demands beyond just acquisition of knowledge; it requires students to master a wide range of disciplinary and interdisciplinary knowledge and think and act in a more integrated way to solve problems. Following are the key skills that will make our students ready for Industry 5.0:

- ***Multi-stakeholder Sensitivity*:** The world today is a totally interconnected and intermingled place and it no longer serves us to think of our own interests in a silo. A company can have sustainable growth only if it follows a collaborative approach and considers the welfare of all its stakeholders. Students will need to have the ability to cater in the best possible way to every stakeholder of the organization - customers, suppliers, shareholders, local communities, environment, regulators, lawmakers and more. Multi

stakeholder sensitivity will require students to have a broad mindset, an inclusive attitude, a deep ability to listen and a prejudice free mind. Social intelligence is going to be the most important aspect to learn. This will improve the ability to understand others' behavior, and the ability to act in a complex situation.

- ***Multi-Generational Adaptability*:** Today's workforce is more complex than ever, making any single demographic lens of limited value. The Global Human Capital Trends survey, 2020 conducted by Deloitte suggests that seventy percent of organizations believe that leading multigenerational workforces is very important for their success, but only 10 percent are ready to address this trend currently. The millennials or the younger generation today are happy among their peers but unable to navigate multi-generational setups. Students need to learn that the big businesses all across the world are all multi-generational and they need to develop the ability to work together in a multi-generational team. This will need them to develop communication and collaboration skills and deepen their ability to accept and adapt.
- ***Multi-Cultural Relatability*:** India is a unique country. It is as big and diverse as another continent. This size and scale bring forth incredible diversity in culture, language, tradition and lifestyles. Workplaces with people from different states of India are vibrant platforms of this cultural diversity. This gets further amplified when workplaces become international. The current trends of multi country, multi religion, multi-language virtual workplaces will be more a norm in the years to come. Ability to respect diversity and use it as a collaborative springboard will be a key differentiator for long term success.
- ***Multi-career Possibility***: The world of work is changing rapidly, the age of the multi-potentialite (someone who pursues multiple careers in lieu of holding a traditional full-time job) has arrived. Advances in technology - automation, robotics, artificial intelligence - means that many types of work are disappearing, as is the old-fashioned idea of 'a job for life'. Pandemic aside, it is said that the average life span is going to be 100+ years and a person might land up having 6 careers throughout his/her lifetime. Our students need to develop the ability to learn and the elasticity for multi-career possibilities.
- ***Multi-choice Opportunity*:** Gone are the days when the choices of courses available for students were limited. The system of education in our country and across the world is witnessing tremendous growth in terms of offering multi-disciplinary opportunities of courses for the students to learn. E-learning platforms have been witnessing an exponential uptake since the pandemic outbreak. Statistics from Coursera depicts that India only shares 10 million out of the total 80 million learners currently on Coursera.

Majority of companies are experiencing skill gaps and this tumultuous job market has created a need from employers to replace traditional skill sets with "soft" skills. The key differentiator is that these don't relate to 'what' work you do, but 'how' you work. As thought leaders we need to ponder how we can skill and upskill the students in order to navigate the future of work challenges presented by the pandemic.

Innovative Post-secondary Options in Tertiary Education

As per World Bank "Tertiary education refers to all formal post-secondary education, including

public and private universities, colleges, technical training institutes, and vocational schools." Tertiary education is instrumental in fostering growth, reducing poverty, and boosting shared prosperity.

Strategic and effective investments in tertiary education can serve every country – from the poorest to the richest – by developing its talent and leadership pool, generating and applying knowledge to local and global challenges, and participating in the global knowledge economy.

The past year brought a paradigm shift in the Indian education landscape with the launch of National Education Policy 2020. It was the much-needed especially during a time when nearly 1.6 billion learners in more than 200 countries experienced the largest disruption of education systems in human history. The closures of schools, institutions, and other learning spaces impacted more than 94% of the world's student population. At a time like this, the launch of NEP 2020 is looked up as the major positive breakthrough for placing India's education sector on a progressive roadmap and transforming the country into a vibrant knowledge hub based on the pillars of Accessibility, Equity, Quality, Affordability, and Accountability. NEP 2020 has shifted focus from 'what to think' to 'how to think' thereby empowering the present and future generation of learners to be future ready. The policy document underpins a spectrum of innovations that enable the development of an enlightened, socially conscious, knowledgeable, and skilled nation that can find and implement robust solutions to its own problems. It highlights that these innovations in education shall enable the development of an enlightened, socially conscious, knowledgeable, and skilled nation that can find and implement robust solutions to its own problems. It calls for following key reforms in higher education that prepare the next generation to thrive and compete in the new digital age:

- Mainstreaming the Indic knowledge systems including Indic technology, Vedic Physics, Ayurveda and Yoga by establishing well-respected empirical validation of scientific conjectures derived from them
- Opportunity for students to design their own degree by using the facility of multiple entry and exit and Academic Bank of Credit
- Borderless multi-disciplinary education
- Promotion of entrepreneurship and startup culture among students through initiatives like Smart India Hackathon, Singapore India Hackathon, Toycathon, Anveshan: Research Conventions of Association of Indian Universities, etc.
- Movement from teacher centric education to learner centric
- Industry integrated programmes at higher education institutions
- Disruptive digital education model

In the light of industry 4.0 the goal of the education system should not be to produce factory workers but leaders. Moreover, Pandemic has transformed the right to education into the right to digital education, also there is a pressing need to devise the right model of education and the right kind of education. The essence of digitalization of education is "delocalization" (physical location does not matter), "dematerialization" (one can learn from anywhere), and "democratic" (available

to everybody). If we bring these ideas with the right mindset of abundance, exponentiality, and having a massively transformative purpose, higher education would get completely transformed to deliver "**Society 5.0"**.

In order to create a model education system that will instill resilience, encourage innovation, promote sustainability, and enable the people to be enterprising, the five-pronged approach is suggested:

1. Current Skill Gap: Identification of current skill gap in the emerging economies and forecasting the future trends
2. Core Strengths: Mapping of the skill gaps worldwide with the core strength of the Indian youth
3. Creation: The skills which are in high demand needs to be created by offering programmes through curriculum in schools, HEIs, professional institutions
4. Collaborate: Collaboration in terms of Public Private Partnership for ease of sharing of talents from India to rest of the world
5. Capitalise: Becoming Skill Capital of the World

Recommendations:

- The global education sector is witnessing disruption, the teaching learning mechanism is evolving at an alarming speed. To stay relevant in the new normal, the educators need to reflect the silos created in the education sector with regard to the choices of programmes being offered to the students. The Programmes shall be designed in line with the demand of the industry ensuring high quality of the programmes.
- The system of education should be student centric in spite of being teacher centric. The requirement of each student should be catered to and the curriculum shall be designed as per the aspirations of students.
- Curriculum should be ever dynamic, without aligning the curriculum with the changing environment, we cannot equip the students with 21st century skills.
- Capacity building of the teachers to teach the curriculum should be given importance in each of the Higher Education Institutions. Additionally, the methods of teaching and assessment also need to be upgraded to meet the needs of the changing times.
- Culture of learning derived out of passion should be emphasized among students so that they can select the courses of their choice from multiple Universities and design their own degrees. A framework for quality education model should be prepared at national level to provide consistent assessment of learning design, content, and pedagogy.
- System of Internship Banks shall be institutionalized in all higher education institutions which underpins the concept of Learning by Doing. Emphasis should be placed on providing a wide choice of courses at different level, of different duration, short term and long term, leading to certificate, diploma, advance diploma, associate degree which are conventional as well as innovative.

Theme- V

Academic Mobility in Higher Education

Preamble

Academic mobility in higher education is not a new concept. Since time immemorial and since the establishment of universities and their flourishing, academic mobility has been practiced in some or other form. India has more than five thousand years of a very rich educational history, legacy and culture. We have witnessed from our oldest centers of learning like Nalanda, *Takshashila*, *Vikramsila, Odantpuri, Ujjwin* and especially the universities like *Takshashila* have been receiving foreign students from different countries during that time. They were the massive centers of learning and having at least to give one example of *Takshashila*, where more than ten thousand scholars were there and more than two thousand teachers were there to impart teaching, learning and research activities in the institution. In such Institutions, the foreign travelers and scholars had received their education from our oldest states of learning, and they have written extensively about the Indian culture, education, and so on in their books. This very significantly emphasizes and reminds us that academic mobility is not a new phenomenon in the present century. It has been happening in some or other form. Now, with the introduction of LPG (liberalization, privatization and globalization) in early 90s, the scope of internationalization and globalization was enormously expanding. In fact, after the establishment of GATE, and later renamed as WTO (World Trading Organization), education was introduced as a service sector in the WTO activities. The concept of globalization and internationalization received a big flip and the academic mobility in higher education has been significantly increasing.

Academic Mobility in Higher Education: Policies in place

During the last decade, there has been a great urge for restoring educational system to make them internationally comparable ensuring an economic benefit across the globe including India. Moreover, internalization is recognized as a priority in the recent NEP 2020 as well. Indian Policy makers are confronted with key questions such as how to increase the number of international students of the country, and how to export and import educational services. With this context, the imbalance between the inbound and the out bound student mobility has been highlighted along with some emerging challenges. Currently, more than five million students worldwide are studying outside their country of citizenship which India sharing a high proportion of outbound mobile students. it is forecasted that around five lakhs students will leave the country to enroll in foreign universities by 2024. It shows that India, the second most sending country after China has become the leading player on the international student market. Unfortunately, in contrast to the consistent increase in outward student mobility, the number of international students in India since 1986 has been irregular, and their overall increase is discouraging. The international students represent only 0.6 % of the total number of students enrolling higher education in India, while the corresponding figure is 1% for China and 3.7% for the United States. With this context, the ratio of inbound mobility to out bound mobility in India is 1:10 that not only human capital is flowing out of India but their substantial amount of revenue as well. With respect to the flow of human capital, it is notable that graduates with degree from prestigious institutions like Indian Institute of Technology, Indian Institute of Management, who pursued advanced degrees abroad, have low rates of

returning to India particularly when compared to similar population in foreign countries as well. Again, unfortunately there are few success stories involving young graduates returning to pursue their careers in India.

Today, in the New Education Policy (NEP) 2020, a good concept regarding the multiple entry and multiple exit has been discussed and very tacitly and very explicitly given recommendation regarding the multiple entry and multiple exit. The NEP, 2020 benefit multitude of students in that if a student entering into the portal of higher education getting admission into graduation first year because of some personal issues, if he/she drops out and after two years if he makes up his mind to again enroll into the same course, he can enroll again, which was not possible earlier. This concept, this issue is going to be addressed by the Academic Banks of Credit. Academic transfer of academic credit has been a long-cherished concept introduced in 2015-16 and thereafter, some organisations some institutions have adapted the procedure and have worked very extensively building the credit score, designing course curriculum, pattern and everything but still, there are a large number of institutions, those who are lagging in this concept.

Today, the borderless education or the mobility in education becomes important because the world now has become a global village and because of that technology the borders are actually going and when the borders are going of the borders are fading then the mobility in education is must especially academic mobility and academic mobility need not restrict only to students. Academic mobility of faculty is equally important. A faculty from India must have opportunity and be empowered to know what is happening in other parts of the world, and similarly the other part of the world faculty members should be able to come to India. When we talk about mobility or borderless education, first we have to understand what these borders are. These were first discussed as a part of SDG4 in the declaration in 2015 or in the UNESCO Education Policy 2030 and of courses our own NEP 2020. Reflection of some of this has come out but reimagining the border for broadening the vision is very necessary and reimagining border of purpose attributes ethos and pedagogy of education is also very important for which one have to go beyond cultural barriers and mental silos. When we talk about mobility, mobility cannot come automatically unless we change our mindset and education transition must happen from typical teaching to learning.

National and institutional policies and practices for widening access to students with different backgrounds

The National Education Policy 2020 has put in a target of Gross Enrollment Ratio for Higher Education to become 50% by 2035. At present there is a diverse kind of a situation across the country where the states like Tamil Nadu, having gained already 50% of GER while certain states in the North like Bihar, Rajasthan, Uttar Pradesh and Madhya Pradesh are still lingering around 15%. There is a need to provide equitable access to higher education to the entire the population of the country. More especially, the socioeconomically disadvantaged groups.

The UNESCO itself has done a recent study called “Towards Universal Access to Higher Education: International Trends” and that has been published on the 23rd December 2020 discussing on Understanding Access to Higher Education in the Last Two Decades. They have come out with very clear statements on barriers to achieving this universal access and also specifying the drivers in achieving universal access. The barriers that they have identified are

poverty, crisis and emergencies in view of pandemic disasters and others. Institutional barriers could be high tuition fees and exclusive entrance examination at various levels, geographic mobility and discrimination. They are proposing economic development, rise in middle class aspirations, growth of private institutions and growth of open distance education and institution to offer opportunity for the under privileged. Recommendations have been made to the policy makers as well as to the higher education institutions and policy makers are to ensure the right of higher education and inclusion at the National level and create national mechanisms to see that there is a widening of access for them. There is also a recommendation to provide an extra support to the students classified as "at-risk" individuals which means in terms of academic needs and socio-economic needs, there has to be an extra kind of an effort to bring them in to the fold so that they will be able to gain access in natural way. Provision of continuous funding support by way of grants and financial aid to the higher education institution to help the vulnerable groups has also been recommended. Another important concept that has been introduced is evaluation and monitoring of the higher education institution admission criteria to ensure a fair chance for getting the admissions of the SEG group in to the best of the universities.

There is also a recommendation saying that the processes have to be benchmarked with agencies like UNESCO to share the successful experiences and also to find solution for such things. They have also made recommendations for higher education institutions where the HEI's are expected to generate data in terms of disaggregated sex, disability, race, ethnic origin, social origin, economic status etc. so that you'll be able to have clear visibility of the factors that are necessary to be addressed and facilitate higher education enrollment. This will be made possible by identifying the students who need more support so that needs to be done by the higher education institutions. For such students, potential students, provision of bridge programmes to help them to compensate the lower academic preparation of certain students from disadvantaged backgrounds are also to be put in to the structure of the higher education admission programmes. It is also recommended that in order to see that race, gender, and inequality kind of issues are taken up and make some campaigns so that the unfair image that the higher education institutions are selective in nature is being removed and the under-privileged groups are also felt that they are welcome in the institution is also one of the recommendations. As it has been said already, use of technology may further increase the access. Today, all of us know that technology has been able to help education in a large way. Mobile phone themselves are become a source of educational process. And, that could also be facilitated with wider applications that can come in.

While that is the recommendations of UNESCO, the International Association of Universities has also made certain recommendations. They have given recommendations to the Higher Education Institutions like integrating the goals of the equitable access and successful participation of all learners into the institutional mission itself. They recommend that it should form part of it. To work in partnership with government, representatives of other educational sectors, professional associations etc. in a holistic manner considering the outcomes of the secondary level schooling and also labour market trends, will help to attract the socio economically disadvantaged group of students to get in widening their access. It is also recommended that higher education institution should call and participate in multi-stake holder dialogue not only with the government but also all the other bodies so that necessary mechanisms can be created. Admission policies are to be strengthened. Practices should be there where in all the potential applicant is given an equity of access and a successful participation in a flexible manner whichever is suitable to them for the

learning pathways. That is where the NEW Educational Policy has given the process of multiple entry and multiple exits. To also give the students a comprehensive academic, financial, and social support system. In all these recommendations, financial support has become one of the pivotal requirements. In addition to that, of course, the quality teaching, curricular innovations and other things have also come along with pedagogical training so that the culture of the students-centered learning is coming into forefront and that can be followed at the appropriate levels.

There is also another aspect of mainstreaming the assessment of prior and experiential learning to them. Along with the use of technology through blended learning, distant learning and e-learning, interacting with media and also developing institutional policy for international mobility and exchanges so that all the type of students will have this access of wider exchange programmes and their knowledge will also be there fully covered through the academic flexibility that can come in. So, all the information has to be provided to all the type of students to increase access, successful retention, graduation rates may also improve and it should be made known to the general public employers and the governments in a proactive manner where higher education institutions have to play a major role. The governments have also been given recommendation by the International Association of Universities. Consultation with all stakeholder groups, articulate an integrated educational, social and economic agenda, and equitable access commitment to be given by the government and the encouraging mission differentiation among the higher education institutions and transparent qualification network and such kind of things have been brought in to be included in the governments' day-to-day practices, and the educational system development. While doing that they have also given emphasis on growing importance of internationalization of higher education, providing funding to ensure that opportunities for international mobility is provided to the all types of students from various types of life.

NITI-Aayog Strategy document for New India during the 75th year of Independence of our Indian subcontinent have also projected the way out for improving the access and widening the access they have put in at that point of time increasing the Gross Enrollment Ratio for higher education from 25% to 35% by 2022-23. We are now on a national average of 28.7% and that should be increased and the higher target is 50% by 2035. To make education as more inclusive, to all the vulnerable groups adopting accreditation as a mandatory process, creating an enable ecosystem and improving employability are the major objectives of the *NITI-Aayog* document. They have also recommended several ways forward like developing regulatory and governance reforms, curricular designs, reforming accreditation framework, creating 'world class universities and performance-linked funding and incentives, development of teacher resources, and distance and online education. Coming to the NEP-2020, this is where the genesis of all the norms and guidelines have come and NEP-2020 has got a chapter on "Equity and Inclusion in Higher Education" which has stated that actions that are to be specific to higher education shall be adopted by all Governments and higher education institutions. Here again, they have also given what are the steps that are to be taken by the governments wherein it is stated that the government funds are to be earmarked for the education of the socio economically disadvantaged groups in the country and also to set clear targets of higher GER for SEDG's. So, there are breakup figures now available that the GER if you classify them in to a socio economically disadvantaged groups and economically advanced groups and all that, there is a gross difference and that needs to be balanced.

Then, gender balance has to be enhanced in the admission of the higher education institutions by establishing more high-quality higher education institutions in the aspirational districts and in special education zones. That is why, the multi-disciplinary universities in every district have been proposed in the New Education Policy. And then, you also have high quality higher education institution that teach in local and in Indian languages or in bilingually also financial assistance and scholarships to these students for both and both private and public institutions have also been made as one of the possible recommendations in the policy. Outreach programmes on higher education opportunities will also be given and technology based on learning outcome has also been proposed. Similarly, HEI's are also expected to take some steps. Mitigate opportunity costs and fees for pursuing higher education, provide more financial assistance and scholarships for the students from lower socio economic status, conduct outreach on higher education opportunities and scholarships, admission process to be more inclusive, curriculum should be more inclusive, increase employability potential of higher education programmes, develop more degree course taught in Indian languages in Indian language medium of instruction as well as bilingually are the type of recommendations that have been given for higher education institutions. In addition, there are some specific mentions about ensuring all buildings and facilities are wheelchair-accessible and disabled-friendly, bridge courses are to be given for the students who are coming from disadvantaged groups, socio-emotional and academic support and mentoring has to be put in place, sensitization of faculty counsellor and students on gender-identity issue and its inclusion in all aspects including curricula is also been recommended. So, we have to enforce all no-discrimination and anti-harassment rules in the institution and these must be included in the institutional development plan which has been proposed and that will have a specific action plan for increasing participation of the socio economically disadvantaged groups in them. In fact, all the policy documents are outlining several kinds of recommendations. So, what is in practice in order to do that has been a review, an analysis of what is it in paper and what is in practice. An article has been published in *Journal of Education Policy* in 2019 by the work done by Cardiff University and University of Bristol in UK titled "'Widening Access' to Higher Education: the reproduction of University Hierarchies through Policy Enactment". So it has found the gaps what could be the possible gaps that needs to be filled up and they have given some kind of a experiential document which may also help us to see at the ground level what is it happening and how what could be the gap-filling mechanism that we may have to create in our own document that we may be able to provide to AIU and through which back to UNESCO too. If we can practice all that I am sure our grandaunts will be flying high after they graduate. It is not just getting the degrees alone it is more important to give them a profitable livelihood for their future.

Institutions as lifelong learning communities for all

Today in the history of economics the world is becoming more and more globalized. Also, the growth of the knowledge-based economy creates some serious economic and technological challenges to the education system worldwide. The economic importance of knowledge and innovation is increasing demanding for both traditional skills and new competencies. People therefore need access to learning on an ongoing, continuous and lifelong basis. Lifelong learning is increasingly important in the globally changing economy. This requires a stronger and better harmonization of educational institutions and policies to create high performance and learner driven systems. Lifelong learning covers all learning systems that is formal, non-formal, and informal. The learners are very important in all these three educational systems.

Lifelong learning communities - so what are communities? That is starting form schools, colleges, universities, professional organisations, local governments, businesses and industries. And the previous experts' presentation was also interlinking between that is multi that is prolonged approaches whereby all skill based starting form higher education, school education and the business industries how we have to collaborate. Also, the National Education Policy giving opportunity for all educational institutions to merge with industrial part that is skill development.

Approaches in Implementing Lifelong Learning

- Embed lifelong learning as an integral part of the mission strategy. Provision of education and learning to a diversified student population through a diversified curriculum to meet the needs of the individuals is the prerequisite for lifelong learning.
- Design educational programs for wider participation. Providing appropriate guidance and counseling services where every institution we have the counseling centres. So education provision is made to understand what the opportunities available are and what course and what programs we need to take for their lifelong learning and empowerment.
- Recognition prior to learning. Embracing lifelong learning in quality culture. Strengthening the relationship between research, teaching and innovation in a perspective of lifelong learning. As it is an inter-related concept whereby the research, research style, titles, teaching -learning innovations whereby through lifelong learning we can bring a lot of avenues.
- Reform to promote a flexible and creative learning environment for all students. Developing partnerships at all levels to attract relevant programs. Acting as role model for lifelong learning institutions as the learners and the specialist and also academicians.
- Role of stakeholders – like role of institution, like universities and colleges, institute to write lifelong learning as organizational strategy. Involve student and staff in the maintenance of a culture of quality to improve programs for staff. Increase the resources available by harnessing the skills and knowledge of stakeholders. Make links with the world of work to facilitate a "learning" approach to adult life.

During COVID Faculty members were able to enhance their skills through online programmes. They strengthened their knowledge by attending courses which were skill-oriented and multi-disciplinary. It facilitated individual knowledge strengthening whereby they can just teach, plan quality teaching and develop the curriculum based on the enhancement of personal skills. Use modern information and communication technologies widely across all disciplines; promote a sense of tolerance, justice and understanding of different races, creeds and cultures in all students. Stimulate home-institution cooperation and involve the family in the life and work of the institutions. Expand lifelong learning in all its students and staff. Broaden the vision of staff and students through wide range of cultural experiences and extra-curricular activities particularly, In Avinashilingam Institute we have value-education courses offered for the students as an option. So, it is really an enhancing for an individual student. They will choose on their own and they will develop skills for lifelong learning and empower themselves and future placement also it enhances. Celebrate learning frequency-frequently as a desirable permanent and enjoyable habit for all.

Widen their intakes and modify their courses to become responsive to the needs of a much more accessible educational world from industry and the community around.

Coming to teachers, the role of teachers with regard to lifelong learning is twofold. They are lifelong learners themselves to develop their own professional knowledge, developing their students as lifelong learners, to be prepared for lifelong learning and to promote lifelong learning to students. Be pedagogically literate in lifelong learning and know its role changing the learning environment. Know how to promote and integrate innovations in learning. Be competent in using IT to support and manage learning process. Coming to the government, the role and responsibilities in implementation of policy on lifelong learning involves encouraging all its resources especially its human resources, talents, skills and knowledge to be made available to all. Use modern communications technology to look outwards to the rest of the world and encourages its citizen to do likewise. Encourage its citizens to develop personal learning plans and to use guides and mentors to develop their knowledge and skills. As we all know that above average, average and below average children are attending our curriculum. So we need to plan according to the uniqueness of the individuals. As we already implemented the slow-learners strategy. Moreover, the UGC also encourages the institutions to should look after the children with having slow-learning capacities. Mobilize special interest groups for monitoring and preservation of a sustainable environment. So conduct of need based researches and dissemination of research outcomes for a wider population through lifelong learning platform.

Coming to the policies for Lifelong Learning – in 1996, an international Organization for Economic Corporation and Development adopted "Lifelong learning for all" as a policy framework which is a guiding framework for their education policy. The Education Commission (1964-66) observed that education does not end with schooling but is a lifelong process. The National Education Policy on Education in India, 1986 considered lifelong education as a cherished goal of educational process which presupposes universal literacy. Now the National Education Policy 2020 emphasizes to ensure inclusive and equitable quality education and promote lifelong learning opportunities.

Current structure and system are not conducive to support sustainability and maintaining mainstreaming of lifelong learning initiatives. Non-acceptance and non-encouragement of academic staff due to overloading, lack of funds. In many universities they there have been has been non-reflection on link between access and lifelong learning. Lack of quality training methods and expertise to meet the needs of diverse learners, language barriers due to regional variations, lack of skill and knowledge in applying ICT both in the education system and barriers on the part of adult learners are in general the barriers to lifelong learning. But challenges are there to break the barriers.

As we all know in the plan period, adult education program was practiced and all a lot of illiterate people have been learnt and the communication was better. Many universities, central universities, colleges, deemed to be universities, they have taken over and even now through NSS activities, then CSS activities universities are bringing this and implementing the lifelong learning process particularly adult learners. we recommend implementing lifelong learning programmes to meet the needs of the community. Student-centred approach - this refers to what is learnt by the learners rather than what is taught by the teachers. Start the lifelong learning in the regional context

programme. Initially can be developed for local and regional demand and slowly widen to national then international level. Lifelong learning working groups should be set up, chaired by the Vice-Chancellor of the university and the academicians keeping in mind in line with the educational policy. Universities to adapt four common elements for lifelong learning – that is one is diversifying student population, diversifying services to learners, diversifying educational programmes, and diversifying partners whereby we are involving schools, universities, colleges, then governments and also the industrial partners. To conclude, the lifelong learning is increasingly important in the globally changing economy. It is of course challenging to examine the process of designing, adopting and implementing new strategies for lifelong learning from the perspectives of higher education. Widening participation in lifelong learning is not only challenging and developing the provision of education and research, it is changing the minds of the institutional self-perceptions. Hence the institute is to move the lifelong learning from periphery to the centre of the institutional strategy and from the confinement of the continuing education centre to a central part of core of the meeting needs of the students.

Conclusion & Recommendations

- There is an imminent need to address the irregularity of inbound and outbound flow of human capital and the need to minimize the gap between the import and export of higher education. The significance of establishing special education zones to attract international students by reinforcing the infrastructure of cities was expressed and the need for innovative and immediate steps to increase outward student mobility.
- The gap between the second tier and third tier universities should be bridged and the need to replicate the strategies of poorly performing universities was put forth.
- Granting autonomy to the universities; request to accept joint degree initiative, and the need for twining programmes, dual degree programmes, innovative nomenclature, and joint research programmes.
- Need for an immediate collective action and swift implementation of these recommendations in order to bring about flexibility in the internalization of education and to address the growing gaps caused due to local barriers that extend to global proportions, for the advancement of Indian Higher Education.
- Strengthening of the educational mobility between interstate, international and inter university was expressed.
- In consultation with all stakeholder groups, articulate an integrated educational, social and economic agenda to promote equitable access, broadened participation and success in higher education
- Demonstrate a commitment to equitable access and success by providing adequate funding using models that are sensitive to, and appropriate for local conditions and that support higher education institutions and students with financial need
- Promote the value of, and encourage mission differentiation among higher education institutions within a transparent qualifications framework that is responsive to societal needs and labour market realities.

- Create a policy environment that is conducive to increased public and private sector funding in support of equitable access of potential and enrolled learners with financial need.
- Initiate targeted policies and programmes to eliminate academic and other non-financial barriers to access and for successful participation in higher education
- Consider the educational system in a holistic manner, developing coherent policies and strategies that build effective links with prior levels of education and allow flexible and seamless pathways for entry to and exit from higher education for all learners
- Recognise and rewards higher education institutions that successfully serve individuals from under-represented groups
- Invest in the necessary and appropriate infrastructure to support the effective use of information communication technologies in education, thereby improving opportunities for all learners, especially adults, and expanding outreach activities in higher education institutions
- Given the growing importance of internalisation of higher education, provide funding to ensure that opportunities for international mobility are made accessible to all
- Report on the achievement of access and retention goals and make widely available accurate, timely, user-friendly information that may serve to facilitate access, including information on financial student aid
- Student-Centric Approach: This refers to what is learnt by the learners rather than what is taught by the teacher
- Start the LLL in the regional context programme initially, can be developed for local and regional demand and slowly widen to National then international level
- LLL working groups to be set up chaired by the Vice Chancellor of the University keeping in line with the educational policy
- Universities can adopt four common elements as diversifying student population, diversifying services to learners, diversifying education institutions, and diversifying partners for LLL
- The need for proper recognition, nurture and respect for the diversity of talents of India was proposed.
- Understanding the significance of innovative measures of research undertaking to cater to the criteria of affordability and sustainability was offered.
- The pivotal role of documentation of innovation and positive aspects of the successful functioning of local systems should be acknowledged and strengthened.
- The need for collaboration of systems and institutions were proposed for the advancement of the Indian Higher Education to meet the global standards.
- Promote student exchange and faculty exchange to diverse campuses both within and outside the state for greater exposure

- To imbibe the best practices of the diverse campuses, to realize the technology-based teaching-learning and make use of the equipment facilities and other resources for quality research
- To initiate interdisciplinary, cross-disciplinary and translational research. To translate basic research to applied, then to translational research and finally forward to societal outreach
- Establishing global guiding principles for ensuring proper recognition of educational qualifications was proposed.
- The requirement to implement proper assessment measures without compromising to prescribed monoculture, as only diversity is found to be sustainable.
- The need to evolve a system which can evaluate the tangible and intangible aspects of Higher Education.
- The immediacy to consider diversity and cultural sensitivity in the functioning of educational systems was emphasized.

Theme-VI

Higher Education Governance

Preamble

The UNESCO recognises the world today as characterised by rapidly changing economies, societal and environmental challenges that have direct impact on higher education systems, amidst the SDG4 specifically aiming to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, requiring equal access for all women and men to affordable technical, vocational and tertiary quality education, including university. The new modes of work, technological developments, demographic trends, massive migration, and the digital revolution – including the emergence of artificial intelligence, the rise of web-based education and training and big data developments – are transforming all aspects of life and work. The recent crises derived from the COVID-19 pandemic have provoked major impacts on education systems worldwide, significantly disturbing learning opportunities, particularly for disadvantaged population.

These concerns have led to a need for a new vision, a reinvention of what higher education will mean in the future. If higher education and the university were to be invented today – what would they look like? Who would participate and complete his/her higher education? How would participants learn? Where would they learn? What knowledge, skills, competencies, and values would they need to develop to work, become global citizens, and live with dignity? Who would guide these changes: institutional leaders, policy makers, researchers, students, professors, employers, community leaders, civil society groups?

In India we have more than one thousand universities, and the duration and tenure of the vice chancellors varies from one state to another, some three years and some five. Three years is not enough to implement their vision and missions. So uniform tenure of at least five years should be there for the vice chancellors and the directors so that s/he has the time to get acquainted with the physical and academic environment in order to have good governance in the course of achieving his/her, vision, mission, and goals.

Another major point for governance in HEI is the funding of the universities. No matter how good the leadership is, and no matter how good the organizational structure is, no HEI can be successful in its governance without adequate funding. If not adequately funded, how will the leader make time to concentrate on the administration, research and academics if he needs to concern himself with the salaries of the teachers and staff, not speaking of the other development needs of the university. So the government must come forward without putting any difference between private universities and public universities. They have to give grant-in-aid on the bases of the number of years of existence, on the basis of performance and on the basis of the contribution that they make. Fortunately, the NEP 2020 has given a provision for creating national research funding that is a welcome move. Even then, equal importance should be maintained for both private and public universities.

Autonomy and Self - sustainability of funding is of utmost importance for successful governance of HEIs. Many universities in India are dependent on the distance education and online program.

However, there are a lot of restrictions to this in recent years where only A category or number 1 universities are allowed to offer online or distance education. Because of this curbing, many universities are suffering from paucity of funds whereas education should be given and offered to all. Because education should be spread anywhere at any time, that kind of independent freedom should be given to all the universities. Unless and otherwise, most of the universities will not function or get accreditation or proper grading important for its development and growth. The promises of the central government even seven decades ago with regard to autonomy of the universities still has not been brought to fruition, nor has it been implemented as envisaged by the UGC. All universities still do not have autonomy today, which is of utmost importance for the governance of HEI in bringing about innovations and growth.

Overview Of Governance in Higher Education

UNESCO's consultancy efforts are the only existing forum to create a common platform of dialogue on educational issues. The overall first proposition would be to recognize we are looking at particular stream of learning. It is commendable that the emphasis is on learning, not only in education per se as it is essentially been studied in multiple situations. From a tradition of very restricted system to the current education system which prevails across the world, we have come a long way since around the 15th, 16th century where the first stage of development was *universitas litterarum* - *universities are a place for literary pursuits*. By their basic character, universities are a place to pursue literary interest and to push the borders of literary knowledge. The second stage came with the imperial role of European nations and universities there which is essentially where they started it became *universitas magistrorum*. And the third stage came with the end of the 19th century and the beginning of the 20th century which is now converting itself into the first two decades of the 21st century, *universitas alimanorum* - Universities are for its students so when you come to an institution you are looking for job opportunities.

Rather than dwelling on the details of the merit of this classification, it is more interesting that this consultation is posed as an important stage because we are essentially asking what will be the next stage of evolution of our learning systems, and this consultation in governance in HEI may well contribute to UNESCO's thinking of labelling that stage. Clearly it is learning and it is not just employment which is what talking of *alimanorum* would also involve. Therefore, this conference is seminal in laying the future directions of growth of higher education and the way it should be contributing.

An important focus would be the ultimate understanding of what the context of governance is, what the range of the domain is in which governance would operate, not just in India, but implication which would be global in character. The learning institutions the world over at the UNESCO level can benefit from India's vast experiences through its immense diversity, from the tribal method of learning to the most advanced method of learning, covering a spectrum of technologies which facilitate learning and therefore may have some relevance for universal applicability.

Secondly, the levels of learning and education and intervention in India are very large. Even then, it may be found that only a very limited supply of really capable people understands the level of universities which they will be expected to administer. Because there needs to be an understanding

which would help them to lead the educational experience of a state, those small and unique states, and therefore how should curriculum be designed, how should teaching methodologies be designed, how should interventions take place in linkages with the outside world and what was valid there would be valid say in Africa, Latin America and others say United Kingdom, Germany or France etc. .UNESCO must recognize that there are country realities , there are regional realities, there are local realities and when you talk of governance you cannot have a universal model of one size fits all. But it must be quickly added here that whereas one size does not fit all there have to be commonalities because they all need a syndicate or an executive body. an academic council, some method of drawing up a syllabus some method of funding, these are things which you cannot get away with. It basically boils down to looking at structure, processes and methods. Governance is about structure, processes and methods. The Indian experiences of governance systems of apex institutions to emphasize how in India itself there are divergences of structure. We have to accommodate the divergences of structure globally and it cannot said that this model has to have global application beyond the minimal of say 20 to 30 % of structure.

A second emphasis would be to recognize that beyond structure there are processes, because processes bring structures to life. The processes impact structures and how structures operate in reality are not always the same as structures are designed on paper. Very often structures do not operate in reality as a true representative of the design which was there in the initial conception because processes impact them and structures get transmuted as you get along. Therefore, when governance systems of higher education are designed you need to have structures which would be non-malleable, structures which cannot be changed merely by processes, and a part of structures which will open to change because the times change. University system across the world would need to recognize this variegated character of governance. Any discussion on processes cannot beg the emphasis on method. It is not just how the structures work, it is not just what the process entails, but how you do it. So, the method is just as important. Further, it needs to be reiterated that there is no shared understanding of how the key players in the governance of higher educational institutions are to be trained. UNESCO would do itself credit if it tried to focus on some guidelines on training people for governance activities of educational institutions at a global level while allowing for a certain degree of flexibility and malleability at the local level.

Referring to the Sustainable Development Goals (SDG) particularly number 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all), 16 (Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels), and 17 (Strengthen the means of implementation and revitalize the global partnership for sustainable development**,)** which must be achievable by 2030, the practicality of the aspirations need to be considered inclusiveness, accessibility, capacity building, student teacher ratio, infrastructure, etc which are essential for achieving the objectives.

Educational reforms are carried out at multiple levels. This has been well experienced in India where education is a concurrent subject, of the State and the Central governments, where you can have several regulations brought in, the compatibility of all the reforms interventions happening together. In such a situation, what is needed to be highlighted is the need to understand the complexity of governance even in a microcosm of the world like India. The AIU is an institution which has come into existence because of the willingness of universities to get together to create

compatible governance norms so that the degrees are recognized across university boundaries. Such is the example that the UNESCO can put forth at the global level. If the future pattern of education globally has to be determined, the framework of reference with Association of Indian Universities could well be the framework of governance of global patterns, as also experienced by UNESCO. So, what must be reiterated here is that UNESCO is a much needed body and whatever incarnation it is in today it is doing a commendable work, and above all it is the only hope of seeing that thoughts related to science, education, culture is shared at a non-political level in the interest of future generations of this planet.

Indian indigenous system of learning needs to be incorporated in the system of the education in the contemporary times. Similarly in other countries their local traditions have to be factored into the educational method. One cannot think of global traditions without incorporating local traditions of learning. Tribal methods of learning (mostly verbal learning) have intrinsic strength and through which they have trained the generations. Over 90% of this country's population still has an identity which is recognized as significant fundamental component of Indian society, and this identity takes traces its traits from its tribal identity. Now this needs to be reflected in a global system of curriculum planning methods of instruction. This country paper reflects these needs so that the richness of tradition that exist in India and other parts of the world create a future which is not just machine learning. The greatest strengths of the autonomy of institutions are their malleability.

System Level Governance in Higher Education

Innovative practices in governance sometimes tramples over previous decisions which could lead to qualms and court cases. Avoidance of all of this is minimum government and maximum governance. Good governance is important in all fields, be it in terms of government departments, health care system, agriculture etc. but especially in good education because whoever is produced here will go and occupy these positions. Therefore, if a good maximum governance minimum government philosophy is to be to be adopted, it should first come in education sector.

Most importantly, system level governance in higher education must be such that all the stakeholders who are associated with the education system should have no grievances and even if there are some minor grievances here and there, they must be addressed as efficiently and expeditiously as possible. Technological mechanisms can help with frequently asked questions (FAQs) so that people will know in which situation what is required to be done for the regulatory framework to be adhered to. Problems and delays can be handled like this by a robust platform where everything is recorded in such portals portal which have been developed for increasing honest, integrity and the transparent mechanism of addressing grievances. There can be overlapping functions of different regulatory bodies that must be avoided, which fortunately in India the New Education Policy 2020 will iron out. The most important part is the transparency which is necessary and required.

Another important requirement beyond regulatory mechanism is facilitation mechanism. Some exercises in conforming to the NEP 2020 by the AICTE may clarify this as they are incorporated in their processes. There must be a structure, a process, a strategy of implementation and different types of methods. And unless we have clarity on that I think we will not be able to do. As facilitator, AICTE revised curriculum and then gave it as on a platter to the universities to adopt without mandating one cap fits all but with the scope of flexibility to make amends and incorporate the

basic essence required by the industry, by the society, by the government. Some18th,19th century skills cannot be taught for a graduate who is going to get a job in 21st century. Therefore, emerging areas such as machine learning, robot learning 3d printing, cloud computing, cyber security, data analytics etc must be added in the curriculum. 36% of the existing jobs are going to vanish and jobs are going to be created in these domains. Faculty members who will in turn handle the classes undergo large scale faculty development programs with experts from all over the world. In this way, AICTE holds two world records for their phenomenal capacity to train faculty members. Further, universal human values program is a mandatory course in curriculum for universal human values. For employability, internship is now mandatory so that one can become not only employable but an entrepreneur fresh out of graduation. Then the other reform which undertaken is an examination reform where the focus is not on the memorization but more on critical thinking, analytical ability, creativity, and innovation which are important facilitation mechanism for students as well as teachers. Further, a well performing institution is allowed to mentor 10 institutions, or some retired faculty from IITs, IIMs or some of the best universities or some people from the industry they will go to an institution, stay there for a week and charge up the atmosphere.

Compliance is another necessary factor for good governance and system governance which may be split into two parts. One is on the part of the regulatory body and the policy has given a famous statement "regulation must be light but tight". Regulation that is light is one which is based on self-disclosure. The standards are announced and the institution on their own will disclose what they do possess which will be accepted. But if some institution is found to have cheated the system, and an inspection finds it to be true, the regulatory body would come down heavily on that institution in terms of penal action and therefore it is tight. Besides this self-disclosure base approval process, two features have been incorporated. One is graded autonomy for well performing institutions that are given multiple years of approval. The second part is to disclosure, that everything that is required is available, in case of new institution obviously there was a requirement of going and inspecting. Physical inspection has been stopped (thanks to pandemic). Instead, technology is used for visual inspection in an online mode which is recorded which takes care of corruption. So, zero corruption mechanism has been evolved this way.

One of the things which has not been possible but which is required to be done is one nation one data. For governance, there are several activities for which institution is required to give the same data in multiple different formats. This is unfortunate. Today with the technology being so enabling why are we asking this data repeatedly. If you are all added together in one portal and say that once in a year you provide this data, it would be smooth. This is another way of making it a very transparent system where only once you give the data and we believe on that. That’s all simple and then all things will happen virtually – virtual inspection, virtual appeal committees and this we have already graduated and we must take it forward.

Now the next part is that of the institutional governance mechanism which include both the national level regulatory bodies and on the other side the institutions themselves. Every institution must have a board of governors which must have not only an eminent academician as the chair of the board willing to give time but also members who are drawn from industry, drawn from alumni, drawn from a pool of well-known citizens, including some of the present students and faculty members so that system becomes transparent without any conflict of interest. Everyone knows what is happening, with robust grievance redressal mechanism where even the minutes of the

meetings are posted on the website. The quickness of addressing problems is the key to good governance.

With regard to the leadership issue, unless leaders are trained in all facets, the right vice chancellors, right principals, right directors will be hard to come by. A commendable program started by the ministry of higher education for its premier institutions like IITs, IIMs is allowing them to have a three-week program for inculcating leadership, two weeks in India and one week in one of the foreign universities to learn their best practices.

Further, a commendable point under the New Education Policy 2020 is a proposal of a single regulatory body where conflicts under several multi-regulatory bodies or the State government bodies will be resolved and the governance in higher education will become smoother. A single regulatory body called Higher Education Commission of India will amalgamate UGC, AICTE, NCTE and many other statutory/regulating bodies. One single body of regulation will ensure that conflicts between regulatory bodies often faced are dissolved and the governance will become smoother. A very clear demarcation of four different activities under higher education is to be taken care of by one apex body with four verticals - regulatory, standard setting, accreditation, and funding, creating a model one-stop smooth governance system for higher education institutions.

Higher Education Institutions Governance and Responsiveness to Dynamic Contexts

Universities are the longest-lived institutions, and they are the most important institution we created as a human race. And, it was the Indians who invented the notion of universities, starting in Taxila around the 6th Century AD followed by the other six universities which were the finest institutions of learning during the 1800 years of existence. India also had the finest and most powerful economy in the world during that time. India pioneered in its history eighteen institutional innovations including women's education. At this juncture when the UNESCO has called upon India to contribute to the effective means of governance and responsiveness to dynamic context, it is good to remind us who we are and where we came from, and perch ourselves from the vantage point of immense experience and long history of higher educational developments, and also the reverse trend for that matter, where we are at a very important point of re-energising our own universities, being addressed by the New Education Policy, 2020. Therefore, India has a lot to share with the world its experiences in responding to dynamic context which is a challenge to governance.

The great universities focus on values in building the most complex but most effective building blocks for its sustenance. One important analogy that can be drawn from the field of economics. Knowledge is goods and when goods are public goods, it cannot be kept private. Informal asymmetry leads to problems as mentioned before where governance is not transparent, conflicts arises and efficient redressal of grievances will be required to deal immediately the problems that stem from such asymmetrical information. There tend to be failure when screening for entry to higher education is based on who can pay. India gained from its history of education where common subjects and heirs to the kings are given opportunities alike, that can be likened to work and study program or buy and dole. Even in the olden days, if one is good, one does not need to

pay as one would pay later anyway, by going back to the institution or by contributing to the society as a good citizen.

This leads to a focus on the importance of governance in responding to dynamic context because governance is the most important factor in order to create great universities. There are five forms of governance - governance by the shareholders, governance by faculty, governance by trustees, governance by the State, and governance by the alumni. Of these, the most effective have been seen to be governance by the alumni body as it is the excellence of one's alma mater that brings continuation of one's educational standing to the present day. Therefore, it is also seen today that the best universities in the world are run by its alumni body.

In dealing with the challenges of governance in responding to dynamic situations especially in the current scenario globally, the ten-box framework proposed by of IIM Ahmedabad may be worthy of suggestion to get the governance right. Governance and strategy are the first pair, structure and system is the second pair, third is staffing and skilling, then culture and leadership, and communication and innovation. Of these, governance is the most important, followed by culture where peer culture is created and followed by leadership. But in order to create great universities, all 10 things need to be executed efficiently.

Participation, Diversity, and Pluralism in Higher Education

India needs to contribute on "Participation, Diversity, and Pluralism in Higher Education" as it is a country that is so diverse in nature that it is bound to have ample experience in addressing issues relating to these Participation, Diversity, and Pluralism in Higher Education. HEI are not meant for the elite alone, but it is not surprising that it is seen that way by many quarters of the population because the parlance we often use in discussing about higher education are suggestive of such misguided notions about HEIs - accessibility, affordability, accountability, inclusiveness, quality and excellence.

In addressing participation in higher education, compulsory education till senior secondary school needs to be ensured. A focus on the education of the deprived sections of the population would lead to participation and because they come from poor background, compensatory education needs to be given which is the responsibility of the education system. The deprived section must be given confidence by training their teachers frame of mind in acceptance their students to gear them towards higher education so that the gap between the general and the deprived sections of the population is minimal at the higher education level. Just giving admission is not enough but strategies to minimise the gap must be in place in order to have inclusive participation in diverse situations. Besides diversity in the composition of the population within the universities, diversity in the composition of the disciplines taught needs to be addressed too. We need to break away from the regimentation of streams of studies that we inherited and cannot break away. New courses must match new ways of doing things in the society as students are afraid to take subjects that does not serve the job industry. Therefore, curriculum development must be dynamic .and lot of autonomy should be given to universities to develop curriculum. Quality in curriculum results in students' success. Concurrently, the teachers' ability to transact the curriculum suiting the local scenario needs attention too. Since the 970s India's universities have come a long way to become composite universities with amalgamation of different universities. This is like going to basic for

India with the implementation of the NEP 2020 that would create amalgamation of more and more universities in to composite universities like those we had in the 6th century AD in Taxila. This diversity and equal acceptance and respect of streams of studies would reflect strengthened personalities of the students to take on new challenges of the modern world.

Pluralism entails not only peaceful coexistence of different interests, convictions, and lifestyles, but in higher education, students should be allowed to master more than one subject so that opportunities are open in diverse directions. It is important for a student to know their core subject and master in that, but also know what is next to their discipline. This would bring about a better person as education is to "make a man a complete man". Therefore, pedagogical science is important as higher education of the students is in the hands of the teachers who are meant to motivate and realise the full development of the potentialities of the students. New systemic approach is needed so that every student has quality education, where regimentation of the subjects in decreased and flexibility is increased, where education of the students is planned for their future.

Recommendations: -

1. There is a need to have reforms at the systemic level, the requirement of revamping higher education institutions, as indicated in NEP 2020,

2. The need to recognize regional and civilization variations in educational planning and implementation, and the innovations that India had pioneered be revived.

3. The quality of education must be attended to at all levels in order to create great universities. India showed the way and has a lot to share to the world its experience of the successes and pitfalls in governance of higher education.

4. The expectations of India's National Education Policy 2020 should be executed so that the new graduates are accommodated and enabled to excel in the changing world without losing their core integrity as a human being.

Theme-VII

Financing Higher Education

Preamble

Higher education was a small and elite sector and in most of the countries it is used to be funded by the public exchequer. When the sector started expanding and it became massified, the public resources became inadequate to support the increasing social demand for education. This led to alternative modalities of financing higher education. The diversified strategies included privatisation measures in the public institutions and encouragement of private higher education institutions in the provision of higher education. The cost-recovery measures and income generating activities liberated the public sector in funding higher education. Though institutions mostly rely on cost-recovery measures to meet their resource requirements, few of them are successful in exploring income generating activities.

Today, the demand for expanding higher education continues to be high but the public funding to support that expansion may not come from the public sector. This will influence the future directions of providing higher education. Distance education, online education, blended mode of education, etc. are considered as the cost-saving measures to provide higher education. The flexible pathways to acquire higher qualifications and the possibilities of credit transfer and academic bank of credits will influence the way one pursues opportunities of higher education and how the sector will respond.

Optimizing public investment in higher education development and developing/sustaining a global fund for higher education development

In the context of optimizing public investment in higher education, two aspects related to the financing of education needs to be taken into consideration. First, what is the total budget earmarked for higher education, and the second one is what is the share of these resources between public and private? These are the two important dimensions of financing education, whether in India or globally.

Globally, 4.7 trillion dollars are spent on education. Although the developed countries constitute less than 1/3 of the total population, nearly 65% of this budget is in the OECD countries or in the developed countries, the remaining part is shared by the developing countries. Therefore, it gives an overview of the spread of the resources in education in the developing countries, including India. The major argument is that whether the higher education should be funded from public exchequer or by private or by the individual household.

Musgrave argued in 1959 that higher levels of public investment exist at lower levels of economic development, across all the sectors including education. The general principle is that there are higher levels of public investment at lower levels of economic development, and lower levels of public investment at a higher level of economic development. To what extent subsidies can be given to higher education, to what extent resources to be diverted to primary education, and the structural adjustment programmes which argued for a transition or a move of resources or a shift of resources from higher education to primary education are important dimensions of the policy programmes.

There is a relative decline in public funding because the expansion of higher education, massification and universalization of higher education was so rapid that public funding could not keep pace with that expansion. One thing that is not recognized why this expansion has taken place. One of the reasons amongst others is the fact that the income in the form of various taxes in the developing countries or less developed countries has gone up. This is an important factor in the context of financing of education, financing of social sectors, or financing of 'less productive sectors. Previously, it used to stagnate at a range of 13 to 14%. Now, it is around 16 to 17%. So, 3% to 4% jump in the total tax income, tax base, and tax source needs to be recognised. These are the important jump that we find in most of the developing countries and that has contributed substantially to change. But globally, we have not reached the 6% as a share of the GDP as the target.

However, there are some instances where some of the developed countries have crossed 6% target. There is a common notion that public sector is the main source of funding. Precisely, 79% of the educational funding comes from the public sources, and only 21% comes from the private sources mostly from the household sources globally. But this proportion will change when we move from developed countries to the developing countries. There are two patterns commonly found. One is called, the privatisation of public institutions and the other one is the promotion of private sector.

Countries like UK and Nordic countries, charge very low fees. But in developing countries, especially Africa or South Asia or Southeast Asia, there is a trend of promoting privatisation of public institutions and promotion of the private sector. Generally, the private sector develops or expands its sphere of activity, when the public sector is almost developed. Similarly, we find that before we reach a stage of maturity in the public expenditure, in higher education or in education, we already have moved towards private education in a big way.

The massification in the developed countries is through public institutions, whereas massification that is taking place in the developing and elsewhere notably in India is through private institutions rather than public institutions. Especially after the turn of the century, the fast expansion of the higher education sector from 8.3 GER in 2000, to around 27.1% in recent year is essentially because of the contribution of the private sector.

The attitude towards financing of education has undergone dramatic change in the 1950s and 60s, the whole development model was centred around public sector dominated development. Most of the universities were public institutions. And most of the colleges were also public institutions. Only in the 1970s India started aided colleges, then self-enhancing or capitation fee colleges and private sector and privatisation process accelerated from the decade of 1980 onwards. This has led to changes in the trends of financing from public sector to the household sector. Now, what is experienced is that student loans have become an important dimension of financing higher education in most of the countries especially in India.

A surprising fact is that the student loans in India have increased substantially. The State Bank of India (SBI) is the single largest bank which provides highest amount of student loans. Student loans have undergone dramatic change both for studies abroad and for studies within the country. Therefore, the transition in financing is from public sector to privatization of the public sector and then towards private sector and to the households. A part of the financial burden of the households is systematically and gradually transferred to the banks particularly those loans borrowed for technical or professional courses. The repayment of bank loans has become a major issue as per

the 2020 December RBI data, and the highest defaulters are of two categories, those who are the engineering graduates and also the nursing profession. The reasons for such defaults are different. The engineering students find it very difficult to repay the loan because they remain unemployed. And, especially because of the private sector expansion that has taken place in the technical education, unemployment has increased as a result of that high levels of unemployment that prompts them not to pay. Many of the nurses who were trained have migrated to Gulf countries or other countries and they are not traceable.

The concern is that what is the level at which public funding should be maintained. It is understood that it will be very difficult for the government to fund an expanding education sector. And this is really very iniquitous in nature, because when the elites are going to higher education when GER was only 4% to 6%, the government gave them full subsidies. But when the system expanded and poor people started coming to the higher education sector the government is deficient of funds. Households are encouraged to borrow bank loans. This is a very iniquitous way of looking at higher education development and it's financing. However, the bank loans are mostly taken by middle class households, or upper middle-class households, not by the poorest of the poor.

There are instances of few innovative options explored by the state governments in India. For example, Andhra Pradesh during the period of 2009-10, introduced a fee reimbursement scheme, when they found that many of the private engineering colleges will be closed down. The state government reimburse the fees paid by the students to the private institutions for technical courses. This is an instance of private sector promotion through public funding. A new trend that has emerged is that promotional private sector through public money which was previously promotional private sector through private money which is an indication of a new dimension of public money being used.

Private sector investment in higher education development

Private investment for the development of higher education in India has experienced a very visible change, which has occurred over the years. It started with the period when people had money, resources, whether rented resources or financial resources, or they had huge money to give in the form of endowment. They gave their resources to able persons of the society to the academic and political leaders of the society and then they did use those resources to establish educational institutions. The change which we are experiencing now is that those people who are resourceful persons from several considerations, they establish their institutions themselves. So, two things are found to be crucial.

First, does the leadership of the country academic or educational has failed to prove its worth as the earlier leaders were able to do by donating their resources to those able persons for the establishment of educational institutions. It was private investment by the leaders both academic or people with interest in education which was done by those people for the benefit of the society to provide higher education. Second, the persons who have resources they are establishing educational institutions, may be that they themselves think that they can manage it better or they are better able to establish this educational institution, then giving it in the hands of other people to run that institution or the leadership of higher education has failed to prevail upon the proper possible disbursement of funds for the cause of higher education.

The private investment in higher education has gone up manifold. Higher education started with private investment in India. Across the globe it was not government which started higher education

rather it was the private initiative, religious organizations, church and other such organisations, missionaries and many people who donated their land, their resources, their money, and this is how institutions started. When government took over other sectors of the economy government also started funding higher educational institutions gradually. Over the last three decades, it is observed across the globe that, all the services such as transport services, road transport, air transport, rail transport, courier services, postal services, telephone services, airline services, everywhere it is found that it is the private sector, which is taking the lead and the government sector has taken a backseat in all the sectors. Similar is the situation with the health sector and the higher education sector where, the private sector is taking the lead.

As per the latest AISHE Report, India has 1043 universities out of these the share of private universities is about 40%. The number of private universities will quickly increase in future. The number of student enrollment is lesser in private institutions (private universities colleges) as compared to the government institutions. The private unaided colleges or self-financed colleges constitute about 65% of the total number of colleges that are privately managed, but the total enrollment in these colleges is not commensurate to their share in the total number of colleges. Though, the massification of higher education is reached with the establishment of more private colleges and universities and private investment, but still the student's larger reliance is on government colleges, government aided colleges and public universities.

The generally held opinion is that the salaries of the teachers in private institutions are much lower than the salaries in government funded and aided government colleges, government universities etc. It indicates that the private investment is more in infrastructure. The four factors which impacts the quality or outcome of higher education, are the students, the teachers, the facilities and the management of the facilities. The private investment on student is very less from the point of view of the institutions as they rely on the household expenditures.

And then the private investment on teacher in the form of teacher's salary and facilities given to the teacher is also less as compared to the infrastructure and salary which is provided to the government sector. The available infrastructure facilities in many private institutions speak of the role of the private investment and therefore, the management of that institution is considered to be more efficient. But of course, there are also large number of private institutions and small colleges, where the management is not considered to be inefficient. The NEP 2020 points out about the large number of private colleges those have a single subject or they are having small number of students. It also underlines the colleges having students in 1000s to be eligible to call as viable colleges and not phased out over a period of time.

The number of student population is rising and a larger share of that population is still dependent on government universities and government and aided colleges. The decade of 1950s and 1960s were the decades of public dominance in higher education sector, and for India's most populated state Uttar Pradesh the year 1985was the watershed year. Until 1985, no recognition was given to any private college however big or small. And from 1986 onwards, that is the watershed time in Uttar Pradesh for instance, that recognition to the colleges were given without finances (i.e. vitt vihin manyata in Hindi language), which means that there will be no obligation on the government to provide grants in aid to that institution. From 1991 onwards when the economic reforms were implemented, the similar practices of Uttar Pradesh were replicated at the national level.

There are deemed to be universities which have become a preferable route for private investment offering professional education or technical education charging higher fees for such courses. And that is why the outreach of the private investment in higher education is often limited to those courses, which can legitimately charge higher rate of fees. A study of NIEPA on "Fees in Private Higher Education Institutions" has also found that, there are differentials in the fee structure or in other words, different fee rates for the same courses offered across the deemed to be universities to compensate their day-to-day expenditures. The mode of private investment in higher education is of three types. There are private colleges, there are centers run by private sponsors within colleges and universities and courses that are sponsored by the private sector within institutions.

The PPP model was explored in 2012-13 by the government of Uttar Pradesh who appointed a committee attracting private finance for higher education in Uttar Pradesh. The committee recommended 4 models to attract more private investment in higher education in India. The provision of the corporate social responsibility which has been made by the government in the last 2-3 years, to be ethically and morally responsible for the social duty and social responsibility of the private sector. Large corporate finance is also coming in and providing a state-of-the-art facility for education institutions and on the basis of that, we say that the quality is coming up in private institutions, although the quality is much lacking in many small private colleges. So, private colleges themselves have a variety of scenes to present, many of the private institutions can be compared with any good university abroad but larger number of the private institutions which have been established by the private sector and which are being run by the private sector, their facilities, the management of the facilities, outcome of education, all these are of very low quality and leave much to be desired.

And the collaborations with the organizations which became the supranational organizations would also help enhancing quality of private entities. For example; the international organizations like World Bank, IMF, WTO, UNESCO, foreign governments, the association of that and foreign companies, multinational companies and non-government international NGOs and then sub national institutions, can help attract private investment in higher education facilitating for maintenance of standards of the private institutions.

The major concern would be not only attracting private investment, but also to have good governance on the institutional arrangement. If the private investment is increasing, regulation and governance should not be left on its own to grow and develop because equity is very important as the opening sentences of the national education policy also said that education is fundamental to the Nation. Education is fundamental to realize the full human potential, it is fundamental to create an equitable society and it is fundamental to ensure national development. So, when private investment is encouraging and is coming, a very competent and transparent regulation and governance will be necessary so that the private investment in higher education is able to produce not only quality outcome of education but along with equity consideration.

Strategies to provide affordable quality higher education

The six strategies suggested in NEP 2020 for achieving quality higher education apparently makes a scope for affordable quality education in Indian higher education.

The first strategy is increasing the share of the public expenditure on education to 6 percent of GDP. Currently, the share of public expenditure on education as a percentage of GDP is 4.43%, including education department and all other departments. The share of education department in

total expenditure on education is 3.03%. Out of the share, 30% of this is on Plan account and 70% of this is a non-Plan account. Moreover, the Central government contributes 15% and all the states and union territories taken together contribute 85%. Therefore, the major responsibility of increasing public expenditure on education lies with the state government. The trend of public expenditure on education by the education department for last 17 years from 2000-2001 to 2016-17 suggests that the funding has remained less or more stable or declined from 3.14% in 2000-2001, to 3.03%.

On the other side, the loan-based funding named as Higher Education Finance Agency (HEFA) which is being promoted. India is experiencing a shift from grant to loan-based funding so far as institutional funding is concerned. There are also many schemes like graded autonomy where self-financing programs are being promoted by the institutions of excellence. So, on strategy 1, if we examine closely, it seems that affordable quality higher education by an investment of 6% of GDP is not coming through even in the next 10 years by looking at the historical trends.

The second strategy says that adequate number of teachers should be there for the affordable quality higher education. Based on the 2019-20 data from all India survey of higher education, the number of sanctioned post and in-position posts it has been observed that for university there is a shortage of 38,881, for colleges 2,07,549. So, there is a shortage of the order of approximately 2.50 lakhs. The observations based on the student teacher ratio, the available data says that in Central Universities the student teacher ratio is 62, in a state public university a student teacher ratio is 55and, in all colleges (private and government and aided), student teacher ratio is 29. On this basis, the calculation of the shortages indicates that the Central University is approximately of 35,000, in a state public university it is1,14,000 and in colleges approximately five lakhs. So, the shortage of teachers is of the order of 6.50 lakh teachers. Therefore, the shortage of teachers has to be addressed if we want to provide affordable quality higher education.

The third strategy focuses on three basic points; revamping colleges and universities, cultivating research, and usage of latest technology and online education. On revamping colleges and universities multidisciplinary is encouraged by NEP 2020.For example; if the University of Delhi colleges are made multidisciplinary on the basis of certain norm, then approximately 5000 Crore will be required for restructuring the colleges into a multidisciplinary college. Another estimation by Prof. Bhushan of top 50 NIRF ranked colleges shows that, if they are made multidisciplinary then it will also take an investment of approximately 11,500 crores. So, there is a cost of restructuring for revamping colleges and universities. Currently, 0.7% of GDP is spent on cultivating research. If 1% of GDP is to be spent on research, then the required investment will be Rs 1.70 lakh crore from the present level of Rs1.3 lakh crore. Technology and online education have got maximum attention in recent pandemic years. But there are issues related to access, affordability, and quality of online education.

The strategy four is on the financial management, following government financial rules, timely release of funding, performance-based funding and self-disclosure. However, there are certain clauses of financial management which may lead to rather more privatization. For example, GFR says that certain percentage of funding will have to be mobilized by the universities themselves. Since the grants received by the institutions are inadequate, greater reliance on the mobilisation of resources would encourage more privatization of public higher education institutions.

Strategy five is support for private philanthropy. In the recent years, it has been observed that there is little contribution from private philanthropy. Selective established institutions are getting benefitted from the philanthropic contributions. It will take a long way for India to explore this option to mobilise additional resources. However, it is an encouraging move by NEP 2020 to urge the higher education institutions to explore this option in a constructive manner.

The strategy six talks about how can we control commercialization of education through light regulation, full public self-disclosure of finance, increasing public education, and higher cost recovery without affecting the needy, etc.

One of the major items of expenditure especially recurring expenditure is in terms of the salaries and major share of that salary expenditure is on teachers. So, whenever there is an underestimation, it is an important dimension and what is found in many of the public institutions is that they try to substitute regular teachers with the guest teachers and ad-hoc teachers and as a result of that, this has become resource saving strategy in many of the public universities which goes against providing quality education to everybody. We have been talking about 6% of the GDP from 1968 education policy, 1986 education policy, and we are repeating the same thing in the new policy NEP 2020 and with a very clear understanding that, if we are going to be realistic to ourselves, we will not reach this figure in the near future as well.

Though the issue of quality has been mentioned in several major policy documents right from the beginning, still the objective is not achieved. The concerns are with the teacher's quality and quality of students and quality of infrastructure facilities. A pertinent question arise is that, is funding of higher education directly proportional to the quality of higher education? Is it very important that for improving the quality the funding should increase? If so, then how to improve funding? What will be the ideal combination of public private partnership in higher education? What should be the way forward?

The issue of jobless graduates is a phenomenon which is going to be a burden for the society and liability for the society. How financing can be remodeled under the given situation is an important policy concern which needs to be addressed.

Recommendations:

1. There is need to understand the developmental model. The available resources invested on selective well-developed regions may be diverted to deprived regions targeting maximum possible number of such deprived/underdeveloped blocks or districts. The multiplier effect of the development will be much higher than what we find if the same number of resources invested in well-developed cities.
2. The universities need to connect to the society, try to straightaway understand the problems of the society, make curricular changes connecting with the society and develop an ethos of public. This should align with relevant quality education which is affordable.
3. A larger share of the investment in higher education is on the recurring expenditures on salaries of teachers. If we observe the budget of the higher education institutions, then 80% of the budget goes in teacher salary and 10% goes in management of their salary that is non-teaching staff and hardly 10% remains for developmental activities, asset creation or

improvement of facilities. Therefore, this aspect also needs to be kept in mind when we think of the participation of public and private in higher education sectors.

4. The household expenditure has very important contribution in financing of higher education. The NSS data a few years before says that in rural areas, if the family has one student going to higher education sector, 15% of that household's income is spent on higher education, and in urban areas 18% is spent on higher education. This is also true for North India and in South India. If one student is going to higher education from one family, then that family is spending in rural South India, about 22% and in urban South India, a little less than 22%. So, household expenditure where the student is going to university or college seems to be substantial because 22% or 21% is very high. The share of education in total expenditure of the households is increasing substantially.
5. The Private Universities/institutions need to be properly audited. The way they are being managed and their impact on teaching learning and quality need proper evaluation.
6. It is high time to speed up the filling up of the vacant positions of the teaching and non-teaching staff to improve the quality of higher education.
7. There are governance issues in terms of governing structures of the institutions where the governing boards face with political interference which needs to be relooked at.
8. With the massive expansion of higher education sector in which the private sector is plays a major role, it is unrealistic to assume and expect that the public sector will be in a position to bear the expenditures. Therefore, public institutions or the government or public bodies should spend more time on developing a framework for operation of higher education, whether the institution belong to public sector or private sector.
9. There is need to demarcate the distinction between profit and surplus in the context of private higher education institutions. Universities in India are not supposed to make profits and if they make profit, then they have to register under the Companies Act rather than under the universities Act. So, what we need is a socially responsible private sector. In 1980s, we went for a market friendly reform, but we did not succeed in making markets people friendly. Markets are not people friendly, but reforms are market friendly. This differentiation needs to recognized.
10. Philanthropic funding is an important area of concern in recent years which is particularly meant for developing countries and not for developed countries and best universities in the world. Over the years a gradual decline in philanthropic funding has been witnessed. There is need to build trust among the philanthropic funders to support Higher Education.

Theme -VIII

Data and Knowledge Production

Preamble

The past ten years have seen a significant shift in the way HEI are conducted. The need for adopting a World Ranking System for measuring the quality of education has evolved in recent years which aims at measuring the quality of HEIs with related data and publicize them for creating a good reputation: In 1992, 100 GB data per day was processed. In 2021, 1,50,700 GB per second is being processed. Earlier the Philosophy was different. Institutions were independent and the student-teacher relationship is closed and internal to the institution. But, in the span of ten years, the trend has changed in terms of measurement. Institution, Student, Teacher, Associated Industries, Regulatory bodies, Country – all were measured. Because of this, explicit data became important. Data has become the holy grail and is going to be the fundamental block in which HEI are going to function. The NEP is going to come up with several transformational measures with multidisciplinary approach wherein the need for relevant data assumes greater significance. Thus, Data is to be considered fundamental right from the beginning of the journey to the path of excellence

The four major reasons for measuring the quality of education among HEIs are – To set goals and improve; Value realization; Positioning with respect to others; and Global competition. New credentials like Micro credentials, seamless integration of industrial and academic world, Borderless competition, Omnibus channel view of learning will occupy the center stage in the process of measurement. The insights and knowledge derived from data will give meaningful outcomes across the entire ecosystem in which the HEIs operate. Data is going to provide the measurement indices, Knowledge is to manage that data for sorting out the problems faced by India in HEIs as in numbers, quality, access, equity, cost, relevance and so on. We should work on developing new models to use for this purpose. Data explosion now extends to machine-to-machine interaction. The role of human reorientation is important in this changing scenario for a more purposeful outcome. What was considered as alternate form of education (Distance mode) has become mainstream today. Adopting newer technologies and learning management platforms, HEIs have been turning on its head. Data and Knowledge Management are going to be critical differentiators for the HEI as well as for the country.

It was highlighted that there are three structural shifts or broad trends in Data and Knowledge such as, Alternative models (Distance mode, Online, Blended learning, home schooling, MOOCs, non-academic players participating in education) have become mainstream, institutional-centric model shift to learner-centric model and hyper personalization of knowledge by leveraging data and weaving knowledge around it. Learning is no longer limited to universities – learning happens through peers, industry and society. Hence, there is a definite requirement for exploring new models to leverage the abundance of data and knowledge. Further, Higher Education has become interwoven and interdisciplinary wherein the transfer of data and knowledge across institutions and disciplines becomes evident. To manage this, proper data and knowledge management practices should be in place. Boundaries between human and machines are blurring and data is

going to play a major role in it. However, the role of human in this technology-driven world will be predominant.

Absence of clear objective and measuring methods among the HEIs with respect to offering/preparing the students with teaching or research or employment. Different yardsticks to measure the performance of the HEI with respect to teaching, research and employment should be customized. Dealing with the quality, availability, completeness and recency of data is a definite challenge and HEIs need to be sensitized on this. Though the HEIs ranking numbers are real, the data submitted by the HEIs should be verified. One way to do is by policing it by sending committees. But the magnitude is huge. Second way is the peer review and the penalty for misrepresentation should be very heavy.

Towards global quality standards of data collection, processing, and delivery

At its core, a data platform is a central repository for all data, handling the collection, cleansing, transformation, and application of data to generate business insights. For most organizations, building a data platform is no longer a nice-to-have but a necessity. Further, data platform is an integrated technology solution that allows data located in database(s) to be governed, accessed, and delivered to users, data applications, or other technologies for various purposes. The benefits of data platforms include their abilities to give users a cohesive view of data from multiple sources, make data available throughout an enterprise to those with proper permissions, and improve data governance. The data platforms can be used to carry out different tasks by different users. The online education market in India is expected to grow at a CAGR of over 20% during 2018-2022. The emergence of cloud computing has enabled players to save a significant amount of content, data, and information on a single platform, thereby making it easier for users and providers to process, procure, access, and manage information from anywhere at any time.[1]

While working on the concept of data platforms, there are three major areas we need to focus, viz., creation, collation and dissemination. The core data architecture, hardware architecture and the database subsystem choice are crucial dimensions of creating the data platform. Further, the data produced must be well collated for an intended purpose and then disseminated to various user groups. While doing so, we need to make a choice on whether to keep it as an open or restricted platform. The open data platform consists of data anyone can access, use or share. It is a powerful tool that can be used to enable citizens, researchers and academics to develop key resources and make crucial decisions to improve the quality of life for many around the world.

However, when it comes to knowledge platform the focus is on creation, protection and application. The knowledge platform should integrate the data and information platforms into deliverable knowledge hubs to be accessed by specific user groups. Digital capabilities of HEIs can be utilised to build online knowledge platforms with required protection and intended applications. The availability of such knowledge platforms is the need of the hour for HEIs to multiply their capabilities in realising higher standards of academic delivery and research innovations. Apart from the institution-owned knowledge platforms, there are numerous online Learning Management Systems (LMS) are available through which knowledge is shared with user-centric content coupled with easy access and navigation. The Massive Open Online courses

(MOOCs) provide an affordable and flexible way to learn new skills and deliver quality educational experiences at scale. Millions of people around the world use MOOCs to learn for a variety of reasons, including career development, changing careers, college preparations, supplemental learning, lifelong learning, corporate eLearning & training, and more.

The Indian HEIs have the capacity to build globally acceptable and competitive data and knowledge platforms by keeping good standards of data collection, processing and delivery. To begin with, the pattern of learning that happens in HEIs needs to be understood. Classroom learning is one fourth, one fourth is internalization by the students, one fourth is doing projects and one fourth is live teaching. There is too much of emphasis on synchronous lectures. Education should be prioritized more than technology part of it. Knowledge production is more of an experience. It is to be separated and categorized. While creating data, pyramids of excellence can also be created, which is an equitable way to become a developed country. Example: Project on preparation of Flow sheets of chemical processes by the students; Using open-source chemical process simulator DWSIM, students at IIT Bombay have created flow sheets of 250 chemical processes. These flowsheets can be thought of as high-level data, created by students.

Through motivation, students have created these flowsheets. They form the next rung of the pyramid. They can be motivated further to go up the pyramid. As they go up the pyramid, they can be placed anywhere in the world. Thus, it is an attainable pyramid of excellence. Similarly, there are several such open-sources available for other areas too such as, e-Sim, an electronic circuit design software for electrical engineers; Open FOAM for Computational Fluid Dynamics; Scilab and Python for general computation; R for statistics; Open Modelica for modelling and simulation; In each topic, we can construct at least one attainable pyramid of excellence. Providing open-source software for the students will help in data creation process. In addition, this will also improve the employability of students in core sectors across the globe in small as well as large firms. For the application, the three different layers of HEI should be accounted. Rural institutions do not even use Learning Management Systems and open sources. Middle level institutions are okay to adopt certain applications. These middle and lower level HEI should be given focus to develop.

During the COVID, LMS was reduced to WhatsApp by many institutions. Technological platforms are extremely useful in data gathering, which cannot be done with pen and paper methods. Technology has its relevance in data dissemination as well. Readiness of HEIs is to be considered. As there were certain educational technologies like MOOCs and NPTEL, the challenges of the pandemic could be mitigated. Another important part it, how far the captured data is being used for certain meaningful interpretation. Systems should be more open so that the coaching institutes may convert to colleges, which is more respected. They can be part of a system wherein everyone can coexist and those doing good will flourish in due course of time. Policies of the Government related to fee structure can be liberalized

Machine learning, big data and data analysis in HED.

Technology is not a replacement for education. It is only a tool to enable education. Teaching also has self-learning process and knowledge creation which cannot be captured by technology. Student and teacher relationship is the core. Apart from privacy issues, there is no necessity for data protection except that we need to ensure that data is not tampered. Data and Knowledge protection needs not much concern. Systems should be more open so that the coaching institutes may convert

to colleges, which is more respected. They can be part of a system wherein everyone can coexist and those doing good will flourish in due course of time. Policies of the Government related to fee structure can be liberalized

In EdTech there are two formats. Infrastructure provider and Infrastructure provider with the content. The learning platforms though are going to become commodities, have a part of service in them. Relationship is also developed. Competition is essential for innovation and better outcome. There should be alternative and systems in place of the existing system of selection. More than exam-based selection, there should an open environment in which everyone is allowed to participate and add value. Many of the open-source Models are delivered through CC BY SA - *Creative Commons Attribution–ShareAlike* license and crowdsourcing should be encouraged. Even in crowdsourcing too, quality shouldn't be compromised and it is a good idea to allow people to participate, contribute and even correct the mistakes quickly. We need to think of several models in which the content may be offered at no cost, but certification will; or even protected content can be offered at a price initially and later free of cost. India has the potential to become the centre of learning once again if we think of these opportunities.

Machine learning is tomorrow's spread sheet. It will become a common knowledge once it is applied across all sectors. But let us not get carried away by the hype that is built around and try to look at the reality. From an environmental perspective, is online data and knowledge energy friendly? The answer is that some of the systems are energy guzzlers. But we are making efforts towards using environment friendly energy resources. Most of the data content are not new, but their application is. "Trust The Teachers". Empowering the teachers to find out what is best for them. Draw them to the centre-stage and make it people centric with technology as a supportive tool. Academic models developed five decades back are to be redesigned. Due to the imbalances in the system, students doing well in the school feel devastated when come to HEIs. Our academic system needs to be totally revamped. This is necessary to take our rightful place in the world of education.

Technology can be used to enable amplification of effective teaching. When we go back to pre-covid stage and not using technology, then we will be on the losing side. Pandemic was a huge experimentation. The learning happened during this time should be put into use. A core set of academics should look at this whole experiment and suggest ways to make use of it. Increased competition, accreditation, assessment and regulation are the major factors encouraging the adoption of data analysis in higher education. Although institutions of higher learning gather much vital data that can significantly aid in solving problems like attrition and retention, the collected data is not being analysed adequately and hence translated into useful data. Subsequently, higher education leadership are forced to make critical and vital decisions based on inadequate information that could be achieved by properly utilising and analyzing the available data. In order to retrieve meaningful information from institution sources i.e., LMS, the information has to be correctly interpreted against a basis of educational efficiency, and this action requires analysis from people with learning and teaching skills. Therefore, a collaborative approach is required from both the people guarding the data and those who will interpret it, otherwise the data will remain to be a total waste

Use of information for policy decision making and organizational quality improvement.

Governance is a very important aspect of management/administration of Higher Education and Private Universities. The quality of governance will determine the credibility and accountability of private universities. Governance means the way of Administration in any organization, further we may include the process of decision making. Governance can be discussed in other contexts as global, national, local and corporate level. There is a plethora of actors who can play role in governance they are Financial Institutions, Government, Accreditation Agencies, quality Control agencies and non-Government Organizations.

The problems in higher education system in the country are huge, they cannot be solved without a restriction of entire management of higher education institutions. The scene is more complicated than it seems like the globalization requires talent, competence, drive, initiative and innovation at every level. This can only be achieved by overhauling the administrative set up of Universities/Institutions. Therefore, Governance of Higher Education needs to be deliberated seriously.

HEIs increasing autonomy from government interference goes hand-in-hand with the implementation of new management approaches like Information and Knowledge Management. That HEIs either are using or are planning to use new tools like internet services, document management, e-learning, e-library, centralized system administration (for students and employees), email, information servers, decision support systems, reporting solutions, etc. underscores the importance of professional Information and Knowledge Management. The modernization of higher education (HE) has forced the institutions to store, manage and use existing data, information and knowledge stores in a better way in order to meet new accountability, effectiveness and efficiency requirements.

Recent years have witnessed the emergence of unconventional models of learning wherein the transfer of data & knowledge is unique and for a specific purpose. Such models are exploring new domains and building futuristic skills and knowledge among the incumbents. Though we cannot right away follow these models as an alternative to the existing formal platforms of data and knowledge, their capabilities and focus should not be undermined. With the increasing scarcity for employable resources, such out of box models are creating a learning space with much needed transformation of individual potential into enviable performance. Knowledge acquired by a non–formal route can become the motive power of personal and personality development, and it can become a driving force in the development of society. "Non–formal" knowledge can be the basis for "formal" knowledge or vice versa. Non–formal knowledge can be a trigger of development.[2] A closer watch at these models would reveal the potential impact they have on the knowledge production and management across several verticals of education which may gain wider acceptance and replication. However, the sustainability of these models will largely depend on their key outcomes such as knowledge orientation, production, dissemination and management.

While looking at the various e-learning platforms, experts opine that the blend of physical and digital platforms holds the key for the future learners. Innovation flourished in the pandemic and people moved to digital space. Phygital is a very intelligent way of layering of both physical and digital capabilities in a very appropriate fashion. The students of HEIs need to have a deeper

understanding of the physical and digital opportunities available in the process of career building. When a sudden change happens in terms of digital methods of learning in place of physical methods, lot of gaps have been identified which can be addressed by appropriate phygital models. Industries are now looking for candidates phygitally educated. We can gain the speed and the scale using digital methods and gain the depth using physical methods. Higher Education should make a person curious and responsible in their endeavours. Acceptance for digital technologies was once hard but recently has become a norm. We are living in a time and age wherein we are dealing with digital natives as our customers. Digital technologies have shattered the access barriers. Phygital can go phenomenal in serving the students appetite to digital learning and contribute to their success. Digital education was once considered as an inferior product and resistance was high adopting it. There were inherent problems like infrastructure & digital connectivity while adopting digital education during the pandemic. Phygital is more of blended learning that can enable immersive and engaging learning experience. Knowledge creation through enormous data consumption is very important. Student is becoming more empowered. Immediacy, Immersion and Interactivity are important for physical education. Having said that, the use of Physical technologies will pave way for integrating the data and extract relevant and needed information which will facilitate policy decision-making in HEIs and thereby improve their quality. When HEIs equip themselves well with such Physical technologies it is not only improving the internal governance of the institutions, but also will provide the much-needed ability to emulate best practices across the globe. In addition, faster implementation of Global, National, Regional and Local policies set by the concerned agencies, both governmental and non-governmental will also be made possible.

Mapping global quality, equity and inclusion.

The idea of inclusive growth is based on the notion of equality of opportunity. Equality of opportunity demands that deserving students from all social groups are provided sufficient opportunities for self-development. The main bases of exclusion in India are region, religion, caste, gender, economic disparities, and disabilities. Therefore, strategies for achieving inclusive growth necessarily need to include affirmative policies targeting the socially disadvantaged, and marginalised, economically poor, and people with disabilities. The progress made in any society needs to be assessed on the basis of the distribution of benefits among different social groups for assessing the inclusiveness of growth and development. When expansion is accompanied by no change in inequality indicators, both the rich and the poor benefit; when expansion is accompanied by a reduction in inequality indicators, the poor benefit more than the rich. On the basis of these situations, it can be argued that in an unequal society such as India, there is need for a higher rate of progression for the disadvantaged classes in order to neutralise the existing inequalities in access to higher education. The policies to improve access need to focus on achieving an accelerated rate of growth of higher education for the disadvantaged groups.

The data creation and transmission of knowledge during ancient times has always been a fascinating subject of study for many researchers who are still amazed at the continuum of such knowledge without the support of conventional forms of education. This webinar also highlighted the need for modern education to identify, preserve & transmit such forms of ancient Indian wisdom and how in it lies the solution for various global problems. The following discussion points indicate the significance of IKS in building quality educational environment in India:

- IKS (Indian Knowledge System) is not an initiative of the Government but the people. It is a way of life. It is considered as passive knowledge. For ages, the Indian system of education was kept away from the mainstream education. Hence, our immediate focus is to bring IKS to the mainstream education. Secondly, we must make IKS as active knowledge and we must connect it with the future not the past. It is intended to connect with the future. IKS is knowledge in practice to make ourselves self-sufficient. To make it accessible, we must bring the language and the methodologies back.

Recommendations

- The developments in technology and internet have not only provided access to data, information and knowledge, but also, created a need to produce quality data and knowledge and their proper utilisation and management. With wider availability of customized and open platforms for data and knowledge creation and dissemination, we need to carefully devise strategies for their purposeful use and reuse.

- The immediate need is a coordinated effort from policy makers, professionals, academicians and technocrats to ensure responsible use of data and knowledge with a concern for the data and knowledge producers.

- Active restructuring of HEI's capabilities and faster escalation of their standards will build a stronger and sustainable knowledge-economy and a favourable learning eco system in the near future. In addition to this, we need to sensitise the major stake holders of the Higher education Ecosystem viz., the teachers and the students to blend the advantages of physical and digital models of teaching-learning process to sustain the quality of education.

- Building a data driven, knowledge rich and digitally reliant higher education environment with its roots in our traditional knowledge system.

Theme-IX

International Cooperation to Enhance Synergies

Preamble

With Covid-19, the world is becoming borderless and education has seen a sea change in the outlook and approach. It has been observed that education sees the large canvas with online penetration across the length and breadth of the world thus international cooperation becomes very significant to enhance synergies. The new education policy announced by the government has also supported the initiative of International Co-operation amongst other changes proposed. In the recent past Government had initiated GYAN and SPARK initiatives pre-pandemic that aimed at bringing best in class faculties from across the world to select Universities in India to improve the competitiveness of Indian systems. Institute of Eminence was another move by the Government on creating world class teaching and research institutions at par with the best in the world beyond the boundaries of regulations in the country.

International cooperation to enhance synergies: status, issues and policies

International policy requires a due-diligence of policy interventions on how do we create a low-cost quality education to attract international students and how do we simplify the visa processes. It is also important to see how do we look at additional funds for Indian universities so that these universities become very attractive for international students. India sees an inflow of about 46000 international students who come to India and an outflow of about 10 Lakh students who go to other countries from India. It is essential to see how to a reverse the situation in which we do have many international collaborations & India is seen as one of the hubs providing affordable quality education to the students.

Meaningful collaborations & linkages are important and the issue of internationalization have been addressed to a great extent in the National Education Policy 2020. For the first time the policy has recommended that states can have the foreign university set up their campuses. Policy suggests that the top 100 ranked universities can come and set up their campuses. This will reduce the movement of students moving out of India and curb the migration. As a result of foreign collaboration, the students will be exposed to the knowledge at international level at a low cost. Currently the state affiliated universities need to go through lengthy procedure to get the approval from the government, while in case of deemed universities the procedure is easier as compared to state universities. However, a quick adoption of international policies may speed up this process. The National Education policy also has opened a way forward to having a joint degree, dual degree, twinning programs at ease. India shall be able to lay focus on some of its indigenous strengths like Indian knowledge system, yoga, Ayurveda through the collaborations.

Overseas Universities have their own sets of apprehensions in partner identification. The best way Overseas partner can assess the Indian counterpart is by NAAC rating and NIRF rankings. It may be essential here to understand why two academic institutions would like to collaborate and define the compelling reason for universities on the sides to collaborate. Some of the areas of Collaborations are highlighted as below:

1. Recognizing the international trend, India, with the approval of Ministry of Education has made provision to follow the credit approach to match with overseas counterparts.
2. Indian Universities can offer good PhD programs and employment opportunities as a lot of development happening inward in the economy
3. In India technological innovations are evolving & good talent is being developed internally, hence it is important to see how students get benefitted from the rich experiential learning by collaboration & how do they contribute to the growth of the country in a sustainable way as well as the world instead of the just focusing on degree & diploma through the collaboration.
4. Overseas university shall also have an opportunity to look at range of activities done by Indian institution that are diverse in nature and equitable and inclusive.

Collaboration strategies of international donors and sponsors

Teaching-learnings across the world are moving towards parity. Experiential learnings, design thinking and critical thinking are the key focus across the board. A general expectation for partner institutions is the ability to be on similar platforms that paves the way for donors from both ends. Donation to the overseas universities is most commonly set to be in the form of equity and as a result of which these kinds of funds come under the heading of Philanthropy Funds.

Collaborative funding shall come in areas where overseas partners see value to work jointly. It may be important to note that Indian Academic institutions need to spot areas of overseas partners & donors with excess funding / money to bring the right investment in India. It may be important to note that Philanthropic donations for Education research and Innovation shall be an important source for institutions in times to come.

Higher education and Corporate Social Responsibility (CSR).

Social responsibility component of internationalization has rarely been focused and this imbalance need to be addressed because universities have an obligation to society. Social engagement in internationalization, outreach social responsibility and engagement in internationalization are increasing focus in few countries through community engagement of higher education. Internationalization as a social engagement & responsibility draws resources namely research, teaching both local to the community with the potential to drive components in internationalization beyond the boundaries of our campuses and global learning as an important learning that cannot be limited to sending and receiving students & staff. One important area of social engagement in global community is the power of content and ideas to support societal problems through complete CSR way to solve problems in India like employment which is being currently done by Harvard Lakshmi Mittal South Asia Institute at Harvard University. It deals with interdisciplinary research in south Asia to build critical understanding of areas like health as well besides political, social and economic .India has contributed significantly through CSR to achieve social and environmental sustainability & CSR Spending in2020 was of INR2000 crore companies have started their own foundations with focus on Education .It is evident no country can progress with being responsible to the society and sensitizing the youth to CSR that is an important point of considerations and universities use social responsibility as a machine leading by example.

Links with open sciences and open learning movements.

International cooperation and collaboration can be significantly built and enhanced through open science and open learning movements which are related to education in general and good quality education in India in particular. Today is Era of MOOCs. IIT B used this platform successfully 8 years ago by creating a collaborative consortium with EDX with the intension to provide courses to larger Global community by using EDX platforms and adding the Indian variant to it. Blended mode was explored where IIT-B tried to online educational platforms with tools and technology which formats human interactions. This collaboration helped in creating inhouse facility. Such collaborations are the need of the hour. SWAYAM is one such initiative in this direction
Even the developed countries which are now looking towards the blended use of MOOCs platform along with the live interaction and getting the advantages on assets of education that is one area that there is possibility of extraordinary collaboration within the country and internationally. India unfortunately has not done much in creating self-repositories.

It is believed that in education, knowledge should be free, services may cost more and to make that knowledge free the best way is to remove all non-conference of copyright, patent etc. Most of the material is downloadable, some material which is not under copyright or whatever people can pay charges these are the facilities which other countries have built. This content is the international collaboration that is proposed. We can continue to learn how people built such systems and how people enhance the contents available

Networks, platforms and knowledge management for advancing international cooperation.

Networks and platforms form an important part of international cooperation. It is Important to note that 98% of the students that are on campus and have no exposure to the world outside. why should they not experience only 2% go overseas internationalization. The Concept internationalization at home means bringing in internationalization and the process of universities and colleges and how can we do this this can happen only through collaboration and international. The Online platform have actually got foreign Teachers teach in Indian classrooms which never ever happened before internationalization in international cooperation earlier it was conventional mobility and conventional cooperation and later on It moved to online Education and further On We're Going to see a blended education which will be a mix of online as well as face to face. the collaboration will actually come together to bring in international cooperation.

In collaboration on curriculum, there is content, there is advancement in some arrears of practice they are ahead but we must also be cognizant on own strength and built them into conversation, this is one part of it which is being aware of one's strength in institutes being very clear of what your weaknesses are here are the strength of western institutes figuring out how to make that work that that is clear kind of direction every inset do YouTube must say how to your position in yourself what are the strength that you want to talk for equally important you know.Network like NAFSA of American Universities EAIE support collaborations are available and can be used effectively by collaborators .

Networks are the result of community building. Universities at international level come together and call themselves as NAFSA whereas a student from one university can contact another university. AIU is in process to develop similar platform in India and is due for sanction of the Ministry of Education. In order to achieve international collaborations, more focus should be given to skill-based education rather than content-based education. Networking for the purpose of international collaboration requires platform sharing that ultimately results in knowledge sharing.

Use of knowledge, technology, and innovation to promote collaboration

The world wants to work on interesting problems a lot of the new innovation is going to come out of India, how can our best researchers benefit from the regard of western researcher and work on interesting problem in India, how can create those platforms where these collaborations can happen on these platforms? One can initiate the institutional level for partnership to sustain which can be done at the faculty level it is when faculty from institutions start talking to each other and working with each other, that these partnerships really get enriched and get taken to next level.

Those countries or those scientists would come out with technology which will take us very close to the real classroom like experience in every possible way is going to perhaps ultimately help us in future and remains an important agenda for collaboration. We can also think innovations and new technologies if we can have a virtual Gurukul kind of a thing, because the key feature of Indian science of education or Indian approach towards education or Indian philosophy of education rests here.

Recommendations: -

1. There is need to revive the indigenous knowledge existed in India and practice since ages especially during the '*Gurukul'* System where in knowledge and were being imparted to the students. The teacher student relationship is at the center of India's ethos. There is need a to revive this ethos.
2. Indian Education system should work systematically to draw the universities from other parts of the world to look at the strengths of the Indian Education system and work on partnerships at an equal platter.
3. The National Education Policy 2020 has great scope to work closely with international partners and plan areas of mutual cooperation's that are mutually beneficial.

Theme- X

Preparing for the future of Higher Learning

Preamble

The market share of Artificial Intelligence to be $ 70 billion industry by 2022; Internet of Things (IoT) to be $11 billion industry by 2030; Virtual Reality (VR) to become $80 billion industry by 2030. Apart from these, the wearable markets, crypto-currency, Genomics, Robotics,3D printing, and Space Tourism as one of the fast-approaching realities of the near future and thus huge potential job markets for learners of higher education. In future the degrees will be delinked from and jobs and an education system which will be very flexible and very need-based, learner-driven, job-focused and technology-based. A calibrated an education system is required where the teachers may be able to create their courses, batches, and modules as per their own specialization and thus will be independent of their formal institutions. Learners who will be learning their self-designed curriculums irrespective of institutions a decade from now. It is an important point of independence, flexibility, and customization of higher education at both the demand and supply end. Factual picture is that currently, 140 million youth are studying in universities in India. One in every four people is a graduate in India as of now and by the end of our agenda 2030. India will be the youngest country on the planet.

AI 2041: Ten Visions for Our Future

The vision of future world and how the whole educational setup will be impacted and move towards Machine Learning, Deep Learning, Artificial Intelligence and IoT. Opinion building role of education which may help us shift the mindsets of millions of people, school administrators, vocational and professional educationists and may activate the implementation of high-quality research leading to all round development of the educational world. IoT has broken the geographical boundaries and physical spaces, how we can stream knowledge anytime anywhere and how the upgraded delivery models may help us revamp our curriculum as well as assessments, and how various channels of the communication system may help us reach out and overhaul our courses and syllabus. the lop-sidedness of this robust future viewpoint by raising the concern of the digital divide which prevails in our country and urged all of us to think about how we can provide a level playfield and increased access by trying blended as well as various other delivery modes of knowledge with the help of - MOOCs and other Learning Management Systems where teachers will be creators and learners will be acquisitors. The Quantum Computing which will allow trillions of bytes of data in milliseconds for easy access and delivery of knowledge.

The futuristic importance of teachers to be that of analyser and discerner of knowledge. The future learner may find it hard to choose and discern which type of knowledge is worth his purpose and aim and there the facilitation role of a teacher will be required to customize the knowledge as per the needs of the individual learner. This role of the teacher can be fulfilled when she/he has complete control and command on delivery systems and mode of technology- assisted learning systems.

Future of Higher Learning & the New learners: Looking beyond 2030

The first thing that will be very important for higher education learning and new learners is that it will be calling teachers to acquire skills. The biggest challenge will be for the teachers who are lacking the required skills of a virtual mentor. They have been teaching students traditionally in different ways. Only recently have they started teaching online and offline in a blended manner. According to the All India Survey of Higher Education (2019-20), we have around 15 lakh teachers in the higher education sector in the country. Many of these teachers are new entrants, the rest are middle and senior teachers. So for a better future, the first thing that will be needed is that the teachers, will have to acquire skills and they will have to be a virtual mentors of the students. As per the All India Survey of Higher Education (2019-20), the number of students currently stands at 3.85 crores. If this number goes by three times, then by 2035 this number will be close to 14 crores.

That will be a huge number to tackle for the teachers. Traditionally we have been focusing on universalizing elementary education then Rashtriya Madhyamik Shiksha Abhiyan (RMSA, 2009) was brought in to universalize secondary education, *Rashtriya Uchchatar Shiksha Abhiyan* (RUSA, 2013) had come to the massification of higher education. By 2035, around 140 million or 14 crore students will be there and the first challenge will be for the teachers in higher education. Assuming that the young teachers are better equipped to skill themselves in the new technology, it will still be a hard task to upskill the entirety of the teacher workforce. The biggest challenge is that in the Indian higher education system, the large section of the affiliation system in higher education and we have to adjust that the affiliation system of higher education, we have to train teachers to acquire skills so that they are able to be virtually mentors of the students.

the second issue will be that higher education will be based on the higher education sector or higher education institutions as of now we have been focusing on access to higher education, the issues of inclusion in higher education, the issues of maintaining excellence and quality in higher education. The quality dimension of higher education is being redefined by technology which will be followed by imparting education in the higher education will be focused on new technology. Even the senior teachers, students are lesser equipped. Teachers have just heard the name of new technologies but do not know much about these – Artificial Intelligence, Machine Learning, Internet Of Things, Robotics, Big Data, Automation Reality, Virtual Reality, BlockChain, Customer Relationship Management, and the issues which are related to relationships of different stakeholders in the education, economy and in the society through this internet of things. These are the issues that will be important for teachers in higher education.

The focus should be given to developing creative thinking and the inner ability of the student to imbibe new skills. Other important thing will be the changing relationship between industries, the enterprises, and the education sector to connect between the higher education pass-outs and

industry and the enterprise to meet the demands of jobs. There are a few institutions in India that are teaching multimedia, design, and other new technologies. Since this is going to become the order of the day, we will have to see how many universities (their number being 1043 going by the data given by All India Survey of Higher Education, 2019-20) are equipped to teach students in the future with these new technologies. Unfortunately, there are few universities that are equipped to teach such as the department of physics, the department of computer science, etc. Hence, if the university meets the demand of the student who will be seeking admission, then they will have to go through with these advanced technologies.

The higher education has to be seen in a continuum and future plans can be made under three heads:

a. What should be the goal of education,
b. What are the means to acquire that goal, and
c. what are the outcomes of this exercise?

The need of the hour is to create a transformative system of education that is not disruptive but constructive. A system that is conducive to "wellness" and stressed on the acquisition of knowledge through "acquisition of happiness of society and the cosmos." Logical teaching and Psychological Learning lead to all-rounded Higher Education. The need for making technology more affordable for building equity. The future learners will need to build creative thinking skills, problem solving skills, independent thinking and out-of-the box thinking skills to be successful and competitive in life. Disruptive technologies in higher education and definition of urban and rural has changed due to technology penetration. The future will be total automation and flexibility of higher education institutions is the key as the child will go to multiple institutions. Curriculum has to be flexible and not fixed as combination of subjects will depend on student's choice.

In 2015, the world leaders agreed to 17 global goals to achieve a better world by 2030 by ending poverty, fighting inequality, and addressing the urgency of climate change which are known as the Sustainable Development Goals or the SDGs or Agenda 2030. The Governments, the policymakers, the businesses, and the civil society worked together to achieve these goals in totality to reach 2030 with hope and prosperity. Education liberates the intellect, unlocks the imagination, and is fundamental for self-respect. Learning benefits every human being and thus should be available for all. Goal-4 of SDG ensures 'Inclusive and Equitable quality education and promote lifelong learning opportunities for all.' The world requires equitable distribution of educational opportunities to everyone without any discrimination with the intent to learn and develop throughout life for a higher quality of living.

Role of teachers in using technology: teachers of the future

Higher education of the future will be enabling the process of learning with Robots, Artificial Intelligence devices, IoT devices, Learning Management systems, and supercomputers. They will be assessors, disseminators, and analysers of the right channels in the right capacity for their learners. They will curate the syllabi, the courses, and the modules for their learners with their learners. The learners of the future will need their teachers to play the role of their techno-buddy,

a synthesizer, and a curator. Moreover, the teachers would themselves be independent knowledge processors who will create their ultra-specific alpha specialized modules depending on their expertise in a niche. They will not need the template of a university or an institution per se to execute their facilitation plans for their target group of learners. Moreover, this breed of teachers will upskill and upgrade themselves as a necessity in the nick of time to be relevant in the teaching-learning scenario. They will collaborate and moderate their own learning platforms and prepare their own replete concentration to develop rabidly specialized knowledge to be attenuated through various channels of teaching. The institutions will become uber-focused wherein only multidisciplinary and interdisciplinary subjects will be taught in a concentrated manner at a rapid pace. Time will be a resource that will be most expensive and thus universities will run multiple batches in a single course and will have an open entry and exit with year-round admissions. There will be no permanent staff, rather teachers will collaborate and deliver their courses as and when the need of the learners arises and as per the teacher's own readiness.

Curriculum development: Changing nature of curriculum and evaluation

Trends suggest that future citizens and expectations held from them beyond 2030 will not be the same as today. Thus, there emerges an urgent need of developing such a curriculum that can support the preparation of today's learners into future citizens. It requires radical shifts in how the nature of learning is being conceived. Curriculum is basically the formal way of imparting education and achieving the goals aspired by any nation for its future citizens. In the broad manner, when one looks at the Sustainable Development Goals (SDGs), the curriculum also requires the world's vision for present and coming generations. The curriculum is not just what the learners are taught through textbooks, rather, it includes all the experiences that the learners get in the guidance of the institutions of education. Though the transformation of curriculum is required at all the stages of education, that is, from early childhood to adult and continuing education, the curriculum for Higher Education holds more importance as it prepares learners for getting employment and taking part in decision-making for various social aspects.

Targeting Sustainable Development Goals

India is also committed to Sustainable Development Goals (SDGs) which encompass all major aspects including quality education, eradicating poverty, protecting the environment, and so on. Thus, the curriculum needs to be such that it targets these SDGs and prepares learners to take responsibility for their society, economy, and environment. The Sustainable Development Goals carry a big promise for the future of our people and planet. Great changes are required to achieve these goals. The changes begin not only with what we do but also with how it is sustained in future as well. Higher education curriculum may act as a guiding compass.

Practicality of the curriculum

The curriculum should support the practical application of Knowledge. The curriculum should be such that learning takes place within the local context and can be applied in the local vicinity of learners as well. For instance, the educator and learners can go to a local area and while interacting with the community members, the learners can ask about their local problems. While knowing about such problems, the educator-cum- facilitator can bring the relevant content to students' attention. Those problems can then be researched upon and solved scientifically by the learners.

These local problems can be related to air, water, soil, and noise pollution, sanitation, lack of work, malpractices, lack of resources, unavailability of teachers for children, etc. The solutions to the real community problems can then be documented in a comprehensible manner by the learners and can be explained to community members. Even, some technology-driven equipment can be generated by the learners for the community, and government, NGOs, and companies can fund such projects. This should be a compulsory part of every course of any program of sciences, humanities, and arts. While this kind of learning can be implemented in any kind of program irrespective of its nature, the kind of problems that can be taken for the project will differ from one program to another. Such a curriculum will not only develop essential knowledge, skills, attitudes, and values among learners but will also help them in solving some major issues facing the country. This will help in developing informed citizens who are sensitized towards society. It will also help the country in overcoming problems like sanitation, poverty, and various divides.

Promoting lifelong learning and opening avenues for later education

Learning should not be stopped at a particular age. Due to increasing uncertainties, the curriculum needs to develop motivation among learners to continue their learning throughout their lives. It should prepare them for future learning, not for the end of learning by getting a degree. Thus, the curriculum should always lead to an open-ended question about which the learner feels curious throughout life and thus always searches for answers. Further, an individual who wants to return to learning after many years of passing a program may find that the subject has completely changed or many new developments have been made in the field which the individual finds difficult to comprehend. Thus, the curriculum should be such that it provides supplementary learning to someone entering at a later stage. It can simply be a list of resources including modules that the individual needs to self-learn before joining a program at a later stage. The curriculum should be used as a tool to ensure personalized learning as well as to decrease the learning gap among students. The curriculum should integrate and promote the use of e-resources in order to bear the ever-increasing demand and dependence upon technologies like Artificial Intelligence. Further, the younger generation is techno-savvy and spends a lot of time online. Thus, topics from the curriculum can be taught to them accordingly, say, through video games or software, which a group of students can play with or use together. It will ensure collaborative as well as cooperative learning, promote team efforts and ensure learning of content through experiential learning and integrated technology. In today's and coming technology-driven world, finding such games and apps must not be a difficult task. Further, curriculum should be conducive to the incorporation of research-based models in teaching-learning such as flipped classrooms, collaborative learning, interdisciplinary teaching and research, and personalized learning.

Inclusion of ICT and Artificial Intelligence

Technology integrated learning- Rapid advancement in the field of science and technology has surrounded mankind. From our offices to homes, from space to ocean, technology is everywhere and is making human life easy and efficient. Technology has entered our classrooms too. China is using brainwave sensing gadgets to analyze the neural process of the students while solving mathematical problems, chips attached to students' uniforms to track their location, robots in classrooms that analyze students' health and engagement levels, minute to minute supervision of the students by the cameras and the data collected from all these devices is directly sent to the

parents. They reported that this AI integration in education forced students to become more disciplined and higher scorers. It has laboratories and classrooms for future generations. The drawback of this AI-assisted learning is that the students become captives. Some students responded that it hurts, feels pressure on the forehead, and looks like it was controlling us. Therefore, we should evolve an approach where the students also feel connected with the technology rather than feeling captives.

Nature of future jobs and the relationship of education with job requirement

Changing landscape of Career Opportunities in Higher Education India is going to be the third largest economy with one of the largest and youngest workforce in the world by 2030. The nation, thus, need to create jobs for around 100 million people who enter the job market over the next decade (FICCI, 2016). Definitely, a major overhaul will be demanded in the domain of job-creation and skill-development in order to make the workforce ready for the evolved nature of jobs in the coming decade. The future, by definition, is unpredictable; but by being attuned to some of the trends now sweeping across the world (OECD, 2019) we can learn – and help our learners learn – to adapt to, thrive in, and even shape whatever the future holds. Considering the drastic changes brought in by the COVID-19 pandemic in every aspect of life, the culture of jobs and career opportunities have also taken a different route. Then, the biggest question that comes into mind is what plans do we need to prepare students for those jobs which have not been created yet. How to prepare young learners to solve societal issues that cannot be imagined at present and make them learn the use of technologies till now. The world is interconnected to exchange domains of knowledge and resources with each other and our students should be equally capable of contributing to the different worldviews and perspectives with respect and humility, and take sustainable actions to promote the well- being of the global society.

Recommendations:

- The need of the hour is to create a transformative system of education that is not disruptive but constructive. A system that is conducive to “wellness” and stressed on the acquisition of knowledge through “acquisition of happiness of society and the cosmos.”
- The need for making technology more affordable for building equity. The future learners will need to build creative thinking skills, problem solving skills, independent thinking and out-of-the box thinking skills to be successful and competitive in life.
- The world requires equitable distribution of educational opportunities to everyone without any discrimination with the intent to learn and develop throughout life for a higher quality of living.
- The transformation of curriculum is required at all the stages of education, that is, from early childhood to adult and continuing education, the curriculum for Higher Education holds more importance as it prepares learners for getting employment and taking part in decision-making for various social aspects.
- The curriculum should support the practical application of Knowledge. The curriculum should be such that learning takes place within the local context and can be applied in the local vicinity of learners as well.

References

1. Batterman, S., Eisenberg, J., Hardin, R., Kruk, M. E., Lemos, M. C., Michalak, A. M., Mukherjee, B., Renne, E., Stein, H., Watkins, C., & Wilson, M. L. (2009). Sustainable control of water-related infectious diseases: a review and proposal for interdisciplinary health-based systems research. *Environmental health perspectives*, *117*(7), 1023–1032. https://doi.org/10.1289/ehp.0800423

2. Fostering Social Responsibility & Community Engagement in Higher Educational Institutions in India, National Curriculum Framework & Guidelines, 2020, University Grants Commission. https://www.ugc.ac.in/e-book/UNNAT%20BHARAT%20ABHIYAN.pdf

3. McCowan, T. (2019). *Higher education for and beyond the sustainable development goals*. Springer Nature.

4. *National Education Policy 2020*, Ministry of Human Resource Development, Govt. of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

5. NITI Aayog website, SDG vertical. https://www.niti.gov.in/sdg-vertical

6. Smart, J. C., Feldman, K. A., & Ethington, C. A. (2000). *Academic disciplines: Holland's theory and the study of college students and faculty*. Nashville, TN: Vanderbilt University Press.

7. *World Economic And Social Survey 2018: Frontier Technologies For Sustainable Development*, Department of Economic and Social Affairs Economic Analysis, United Nations, https://www.un.org/development/desa/dpad/publication/world-economic-and-social-survey-2018-frontier-technologies-for-sustainable-development/

8. Ministry of Education, India website. https://www.education.gov.in/en/research_schemes

ANNEXURE

Theme I: Impact of Covid-19 on Higher Education

Organising University: Dr. Babasaheb Ambedkar Open University, Gujarat

Panelist: -

1. Prof. Atul Kothari, National Secretary, Shiksha Sanskriti, Utthan Nyas
2. Dr (Mrs) Pankaj Mittal, Secretary General, Association of Indian Universities
3. Prof. Nageshwar Rao, Vice Chancellor, Indira Gandhi Open University
4. Prof. Neelima Gupta, Vice Chancellor, Dr. Harisarisingh Gour Sagar University
5. Prof. C. Rajkumar, Vice Chancellor, O. P. Jindal Global University,
6. Prof. Anamik Shah, Vice Chancellor, Gujarat Vidhyapith, Ahmedabad
7. Prof. Bijiyalaxmi Nanda, Principal Miranda House
8. Prof. Dilip Barad, Former Dean, Maharaja Krishnakumarsinhji Bhavanagar University
9. Prof. Dipti Bhalla, Dean, University of Delhi,
10. Dr Amarendra Pani, Joint Director & Head, Research, Association of Indian Universities

Theme II: Higher Education and the Sustainable Development Goals

Organising University: O P Jindal Global University, Sonipat, Haryana

Panelists:

1. Dr. C. Raj Kumar, Vice Chancellor, O P Jindal Global University, Sonipat, Haryana
2. Dr. (Mrs) Pankaj Mittal, Secretary General, AIU
3. Dr. Amarendra Pani, Joint Director, Research, AIU
4. Dr. Anamika Srivastava, Associate Professor, JGU and Fellow, IIHEd
5. Prof. Saumen Chattopadhyay, Zakir Husain Centre for Educational Studies, Jawaharlal Nehru University, India
6. Prof. Maresi Nerad, Professor Emerita, Higher Education and Director, University of Washington, Seattle
7. Angel Calderon, Principal Advisor Planning and Institutional Research, RMIT University, Australia
8. Duncan Ross, Chief Data Officer, Times Higher Education, UK
9. Prof. Elizabeth Buckner, Assistant Professor, University of Toronto, Canada
10. Prof. Anirban Chakraborty, Director, Research and Development, Ashoka University
11. Dr. Yugank Goyal, Associate Professor, FLAME, India

Theme-III Inclusion in Higher Education: Suggested Model

Organising University: Dayalbagh Educational Institute (DEI), Agra, UP

Panelist:

1. Prof. Sona J Minz, Vice-Chancellor,Sido Kanhu Murmu University, Dumka, India
2. Prof. (Ms.) H K Laldinpuii Fente, Professor, Mizoram University, India
3. Dr (Mrs) Pankaj Mittal, Secretary GeneralAIU, New Delhi, India
4. Dr Amarendra Pani,Research Division, AIU, New Delhi, India
5. Prof Sukhdev Roy, Dr. Roopali, DEI., India
6. Sh. Sumir Rao, DEI, India
7. Dr. Prem Shankar, DEI, India

Theme IV: Quality and Relevance of Programmes

Organising University: Sri Sri University, Cuttack, Odisha, India

Panelist: -

8. Prof. Manikrao Salunkhe, Former President, AIU and Vice Chancellor, Bharati Vidyapeeth Deemed to be University, Pune
9. Prof. P. C. Joshi, Vice Chancellor, University of Delhi
10. Prof. H. Venkateshwarlu, Vice Chancellor, Kerala Central University
11. Prof. A. K. Bakshi, Vice Chancellor, PDM University, Bahadurgarh, Haryana
12. Prof. Jayrajsinh Dilavarsinji Jadeja, Vice Chancellor, KSKV Kachchh University
13. Prof. Pawan Kumar Aggarwal, Vice Chancellor, Odisha University of Agriculture and Technology
14. Prof Ambarish S. Vidyarthi, Vice Chancellor, Bikaner Technical University
15. Prof. Ajay Kumar Singh, Vice Chancellor, Sri Sri University
16. Prof. Neeraj Gupta, Vice Chancellor, Central University of Rajasthan
17. Prof. Raj Kumar, Vice Chancellor, Punjab University
18. Dr. Rajani Gupte, Vice Chancellor, Symbiosis International Deemed University
19. Prof. Ved Kumari, Vice Chancellor, National Law University, Odisha
20. Prof. Parimal H Vyas, Vice Chancellor, MS University of Baroda, Vadodara, Gujarat

Theme- V- Academic Mobility in Higher Education

Organising University: Avinashilingam Institute for Home Science and Higher Education for Women (Deemed to be University), Coimbatore, Tamil Nadu, INDIA

Panelists: -

1. Prof. Bhushan Patwardhan, Former Vice Chairman, UGC, National Professor-AYUSH, Savithribai Phule Pune University, Pune.
2. Prof. P. Kanagasabapathi, Chairman in-charge, Indian Council of Social Science Research,
3. Prof. S.P. Thyagarajan, Chancellor, Convenor, Avinashilingam Institute for Home Science and Higher Education for Women (Deemed to be University), Coimbatore
4. Prof. V. Murugesan, Former Vice Chancellor, Annamalai University, Chidambaram, Tamil Nadu
5. Prof. N. J.Rao, Former Chairman, Centre for Electronics Design & Technology,
6. Dr.S. Kousalya, Registrar, Avinashi lingam Institute for Home Science and Higher Education for Women (Deemed to be University), Coimbatore
7. Dr. Anandhavalli Mahadevan, Former Vice Chancellor, Mother Teresa Women's University, Kodaikanal and Karpagam University, Coimbatore,
8. Dr. (Mrs.) Premavathy Vijayan, Vice Chancellor, Avinashi lingam Institute for Home Science and Higher Education for Women (Deemed to be University), Coimbatore

Theme- VI: Governance in Higher Education

Organising University: Mizoram University, Mizoram, India

Panellist:

1. Prof. Vinayshil Gautam, Founder Director, IIM, Kozhikode. Former Head, Management Dept. IIT, Delhi.
2. Prof Anil Sahasrabudhe, Chairman, AICTE
3. Shailendra Raj Mehta, President and Director and Distinguished Professor of Innovation and Entrepreneurship, MICA, Shela, Ahmedabad
4. Prof. Ramesh Ghanta, Former Professor of Education, Maulana Azad National Urdu University. Hyderabad, Telangana
5. Prof Jagannath Pattanaik, Pro-Vice Chancellor, Mizoram University, Aizawl
6. Dr Amarendra Pani, Joint Director, Research, Association of Indian Universities

Theme – VII: Financing Higher Education

Organizing University: National Institute of Educational Planning & Administration, New Delhi

Panelist

1. Prof Mohd. Muzzamil, Former Vice Chancellor, Dr B. R. Ambedkar University, Lucknow, Uttar Pradesh
2. Prof. Sudhanshu Bhusan, Professor and Head, Department of Higher and Professional Education, National Institute of Educational Planning & Administration, New Delhi
3. Prof. N.V. Varghese, Vice Chancellor, National Institute of Educational Planning & Administration, New Delhi, Chairperson & Moderator
4. Dr Pankaj Mittal, Secretary General, Association of Indian Universities.
5. Dr Amarendra Pani, Joint Director & Head, Research Division, Association of Indian Universities

Theme No. VIII: Data and Knowledge Production

Organizing University: SASTRA Deemed University, Tamil Nadu, India

Panelist

1. Prof. S. Vaidhyasubramaniam, Vice Chancellor-SASTRA
2. Shri. R. Narayanan, - Education & Skill Development Head, KPMG
3. Shri. R. Ramkumar- Former MD of Cognizant and Pro-VC, KREA University
4. Prof. Souvik Bhattacharya – Vice-Chancellor, BITS Pilani
5. Prof. S. Sadagopan, Former Director, IIIT, Bangalore
6. Prof. Kannan Moudgalya, Professor, IIT Bombay
7. Mr. TSV Ramana, Founder-CEO, Code Tantra
8. Mr. Venguswamy Ramaswamy, Head- TCS Ion
9. Mr.Rajesh Kumar, Co-Founder, FACE
10. Prof. Rajan Saxena, Management Expert & Former Director, IIM Indore
11. Dr. Sudha Seshayyan, Vice-Chancellor, TNMGR Medical University
12. Dr.Shrinivasa Varakhedi, Vice-Chancellor, Kavikulaguru Kalidasa University
13. Prof. N. Kannan, Head, Department of Oriental Studies, SASTRA Deemed university
14. Prof.N.T.Rao, Vice-Chancellor, MIT World Peace University
15. Dr.S.Selvabaskar, Professor of Management, SASTRA Deemed University
16. Dr. (Mrs.) Pankaj Mittal, Secretary General, AIU
17. Dr Amarendra Pani, Joint Director & Head- Research, AIU

Theme – IX: International Cooperation to Enhance Synergies

Organizing University: Savitribai Phule Pune University Pune

Panelist: -

1. Prof. Aniruddha Pandit, Vice Chancellor, UGC Professor
2. Amit Dasgupta, Strategic Advisor India Engagement at UNSW Sydney at UNSW

3. Dr. Varun Sahni, JNU Professor, Twice Vice Chancellor (University of Jammu, University of Goa)
4. Dr. M.R. Rao, Chairman of All India Board of Management Studies
5. Vinay Hebbar, Managing Director for the Asia Pacific Region at Hrvard Business Publishing
6. Shobha Mishra Ghosh, Director & Head, Govt Affairs & Policy
7. Prof N.V. Varghese, Vice Chancellor of NIEPA, New Delhi
8. Dr. Tanaya Mishra, Senior Vice President Group Human Resources
9. Mr. Dinesh Patnaik, Director General in Indian Council for Cultural Relation (ICCR)
10. Dr. Deepak B Phatak, Indian Computer Scientist & academic
11. Ranjan Banerjee, CHRO, Transformation Expert, Strategic Human Resources Leadership
12. Dr. Vidya Yeravadekar, Principal Director of Symbiosis Society
13. Sangeeth Vargese, Founder & MD: LeadCap Ventures
14. Saumak Raychaudhuri, Director of IUCAA
15. Dr Anand Deshpande, Founder & Chairman of Persistent Systems
16. Dr. H Vinod Bhat, Executive Vice President of Manipal Academy of Higher Education

Theme X: Preparing for the future of Higher Learning

Organizing University: Jamia Millia Islamia, New Delhi

Panelist: -

1. Prof. G. D. Sharma, President Society for Education & Economic Development
2. Prof Mohd. Muzammil, Vice Chancellor, V.C. BR Ambedkar University, Agra, India
3. Prof SR Bhatt, Former Chairman, Indian Council of Philosophical Research, New Delhi
4. Prof Harshad P Shah, Vice Chancellor, Children's University Gandhinagar, Gujarat
5. Prof S P Malhotra, Director, Educational Technology Management Academy, Gurugram Haryana.