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शिक्षा मंत्रालय
भारत सरकार

सत्यमेव जयते



अखिल भारतीय शिक्षा समागम

राष्ट्रीय शिक्षा नीति 2020 – कार्यान्वयन विमर्श

7-9 जुलाई, 2022, वाराणसी





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राष्ट्रीय शिक्षा नीति 2020-कार्यान्वयन विमर्श
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शिक्षा मंत्रालय
भारत सरकार

सत्यमेव जयते

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Chapter 1

Multidisciplinary and Holistic Education

- Prof. Rama Shanker Dubey,
Vice-Chancellor,
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The National Education Policy, 2020 (NEP-2020) stresses the need for imparting holistic and multidisciplinary education (HME) to all learners to help them towards all-round development, in all capacities, such as social, physical, emotional, moral, intellectual, and aesthetic, in an integrated manner. The policy emphasizes that the course curriculum should be multidisciplinary in nature with the flexibility for the learners to opt for a creative combination of disciplines, according to their choice with unique course options besides specializing in a particular chosen discipline. The policy states that the duration and credits of degree programmes should be adjusted accordingly so that the learner gets the opportunity for a wide-spectrum range to choose from besides the major focus on the chosen specialization. All higher education institutions (HEIs) providing UG, PG, and doctoral programmes ranging from traditional disciplines of the humanities, social sciences, and pure sciences to various professional, technical, and vocational disciplines, have to impart HME to the students. NEP-2020 envisions that HME is the need of the hour, to produce well-rounded individuals, rooted in Indian culture, with capabilities to keep pace in an integrated manner, with the demands of the 21st century.

In fact, from the rich ancient past and heritage, we understand that the Indian vision of education always relied on holistic and integrated development of the body, mind, intellect, and soul of the human being. In ancient India, the gurukul system of education was a perfect model of holistic education, where gurus mentored their students through experiential learning, educating them with the study of the Vedas,



culture, philosophy, religion, physical education, yoga, archery, hunting, self-defence, economics, science, military science, law, astronomy, life skills, and community engagement. The most famous, world-acclaimed ancient Indian HEIs such as Taxila, Nalanda, Vikramshila, and Vallabhi were established on highly formalized principles of holistic and multidisciplinary learning. Because of this exclusive quality education, students from different countries flocked to Indian learning centres and India, in her glorious past, was known as the “Vishwa Guru”.

Views of the gurus of the age

Great Indian educational philosophers have always advocated the need for holistic and multidisciplinary education to be imparted in the early youth to ensure character building, man-making, and nation-building. In the words of Swami Vivekananda, “The ideal of all education should be man making. It’s a man-making religion that we want. It is man-making theories that we want. It is man-making education that we want.” He further asserted, “Education is the manifestation of the perfection already in man.” He believed education should produce an all-round developed and complete human being with an upright character. The educationist, Rabindranath Tagore had firm views that education should aim at self-realization, holistic development, and connecting deeply with one’s culture and the surrounding world. Shri Aurobindo believed that the holistic development of an individual should also include spiritual development, besides the development of body, mind, and intellect. Pandit Madan Mohan Malaviya emphasized that the core value of education should be holistic and it should focus on character building, developing patriotism, compassion, love, and devotion to the motherland. Well-rounded physical, mental, emotional, spiritual, and cultural development besides knowledge and skill empowerment needs to be the comprehensive focus. He strongly favoured teaching religion and ethics as an integral part of education for holistic development and character building.

Implementing HME in HEIs has to be prioritized. Regulations for Academic Bank of Credits (ABC), guidelines for multiple entry and exit in the academic programmes of HEIs, and the internationalization of higher education are some of the initiatives that have been taken in recent times.



On July 9, 2021, the Chairman of UGC requested all Vice-Chancellors to implement HME teaching in all universities and colleges. This emphasizes that every student in an HEI, irrespective of the discipline, has to be provided holistic and multidisciplinary education. As per the mandate of NEP-2020, the curricula for holistic education should include components of environmental education involving climate change, pollution, biodiversity, wildlife conservation, sustainable development, and value education should include human values such as satya, dharma, shanti, prem, ahimsa — the universal goals of truth, righteousness, peace, love and harmony, and non-violence — to develop a scientific temper, constitutional and ethical values, life skills, and community service, among other such fields. Many universities and HEIs in the country have taken the lead by devising appropriate course curricula and different modules for their UG and PG programmes.

Aligning with the vision of education and the mandate of NEP-2020, the curriculum would include Indian culture, Indian knowledge systems (IKS), Indian traditional values, ethics, human values, global citizenship education, life skills, organic living, community engagement, environmental education, soft skills, personality development, and yoga. As per NEP-2020, holistic education includes internship training with local industries, business establishments, craft persons, and artists, or research internship training in HEIs or other institutions, to develop competency and working skills and improve employability. With the inclusion

INITIATIVES

- i. Revision of AICTE Model Curriculum to suit multiple Entry / Exit
- ii. Relaxation of Land norms for facilitating multidisciplinary education
- iii. Merger of institutes of same trust permitted if within the city limit.
- iv. National Higher Education Qualification Framework (NHEQF) & Unified Credit Framework for Higher Education
- v. UGC Regulations on Academic Bank of Credits and Multiple Entry & Exit
- vi. Outreach Programme & Exchange of Best Practices by NAAC
- vii. Regulations for introduction of Four-Year Integrated B.Ed. (Dual Major) program including Language Education
- viii. AICTE- comprehensive model for implementing Holistic Value Based Education.
- ix. Guidelines for promotion of Physical Fitness, Health Welfare, Psychological and Emotional Wellbeing of Students
- x. Margadarshak & Paramarsh Mentoring Scheme



of these components in the curriculum, we can ensure that the students emerging from our HEIs are all-round, mature citizens with a developed body, mind, and soul, possessing human and ethical values conforming to Indian traditions and in sync with contemporary focus of a wide and global perspective.

To provide multidisciplinary education as per the NEP-2020 mandate, HEIs depending on the academic strength of the faculties, have started floating creative and popular multidisciplinary courses, which can be taken as minor electives in different semesters, by students of entirely different disciplines. For instance, students with the core streams of arts and humanities can opt for science and vocational courses and vice versa. All HEIs, across the country, are expected to become multidisciplinary in nature in the long run.

It is imperative that we provide holistic and multidisciplinary education to our students so that they are nurtured to become physically, mentally, intellectually, and morally sound, well-rounded individuals, well-versed in Indian culture and traditions and have a global vision due to multidisciplinary and cross-disciplinary thinking. Such youth, with Indian roots and a global outlook will be a boon for making an atmnirbhar Bharat, while addressing the challenges of the 21st century.



Chapter 2

Research, Innovation and Entrepreneurship

Prof. Kamakoti Veezhinathan,
Director
Indian Institute of Technology, Madras

The ultimate objective of technical education is to provide effective and affordable solutions for societal problems. Achieving this involves research, innovation, and entrepreneurship, in this sequence. Any educational policy must articulate a clear path in which the education must fuel research in relevant topics, enable protecting the innovation that is yielded by the research, and nurturing entrepreneurship that involves converting the innovative ideas to products. The National Educational Policy (NEP) 2020 has comprehensively addressed these points.

Encouraging Research

Research may be classified into three, namely, fundamental, exploratory and translational. Understanding the difference between these three is crucial both from the academia and industry perspectives. Fundamental research predominantly deals with the basic theoretical frameworks that shall form the basis of building any innovative product in future. The exploratory research deals with new emerging and disruptive technology areas, while translational research deals with converting reasonably established ideas into usable products. The NEP 2020 recommends establishing a National Research Fund (NRF) to encourage research. The research in emerging and disruptive areas is either interdisciplinary or multidisciplinary. The NEP 2020 lays strong emphasis on interdisciplinary/multidisciplinary education. Some of the emerging and disruptive areas include

- (a) Data Science and Artificial Intelligence;



- (b) Medical Technologies;
- (c) Space Technologies;
- (d) Next Generation communication Technologies including 5G and 6G;
- (e) Semiconductor Technologies; and,
- (e) Cyber Physical Systems.

Across the Higher Education Institutions courses on Data Science and Artificial Intelligence are offered both online and physical modes. The NEP 2020 recommends that such courses be made accessible to a large set of students from diverse backgrounds and also enable reskilling. This implies that admission to these courses must have no age bar, no cap on the number of seats, should be self-paced, scholarships be made available to needy students and must have multiple entry and multiple exit options. One such example is the BSc Data science program offered by Indian Institute of Technology Madras in a web-enabled mode that satisfies these criteria. Many engineering institutions have been working in medical technology for long in collaboration with medical colleges. With the emphasis on MedTech, necessitated due to increasing imports of medical devices resulting in high cost for health-care, the engineering institutions are starting medical schools. Some recent examples include Indian Institute of Science, Bengaluru; Indian Institute of Technology, Kanpur; and, Indian Institute of Technology, Guwahati. Cyber Physical systems are becoming prevalent across the world, specifically, with extensive digitization happening in the post-covid era. Several interdisciplinary postgraduate courses are being offered by the Engineering Institutions that shall form the basis for research and innovation in the emerging and disruptive technology areas. Examples of such courses include:

- Advanced Materials and Nanotechnology
- Biomedical Engineering
- Complex Systems and Dynamics
- Computational Engineering
- Cyber Physical Systems
- Data Science



- Energy Systems
- Quantum Science and Technology
- Robotics
- Quantitative Finance

The University Grants Commission, Government of India has enabled the students to pursue two degrees concurrently. This has turned out to be a game changer in enabling multidisciplinary education across different streams. The Academic Bank of Credits (ABC) as recommended by the NEP 2020 will serve as a crucial enabler for reskilling and multidisciplinary education, that in turn forms the foundation for research and innovation in emerging technologies. All these shall undoubtedly help achieving the goal of Multidisciplinary Education and Research Universities (MERUs) as envisaged by the NEP 2020.

INITIATIVES

- UGC Guidelines for Establishment of R&D Cell in HEIs and Ministry's Innovation Cell established in AICTE is driving innovation
- Establishment of Institute Innovation Councils in the Institutes
- Idea Development, Evaluation and Application: IDEA Labs for Experiential learning
- Innovation Ranking of Higher Educational Institutions in India - 3550 HEIs have registered and 1438 HEI are participating in ARIIA 2021 of AICTE
- Conduct of regular hackathons
- Course on Design Thinking
- Support for funding 10,000 patents annually

Encouraging Innovation and Entrepreneurship

Innovation and Entrepreneurship are highly emphasized in the NEP 2020. The Government of India has opened the space sector for private industry. The organization named In-Space is formed to interface between the private industry and the Government. The Department of Science and Technology, Government of India has launched the National Mission on Interdisciplinary Cyber Physical Systems with a funding of INR 3500 Crores (Half a billion USD) to encourage academic institutions to pursue translational research in that area. The deliverables of this mission are startup companies and intellectual properties. The Ministry of Electronics and Information Technology has launched the India Semiconductor Mission with an



overall financial outlay of INR 78000 crores (10 Billion USD) to encourage research, innovation, entrepreneurship and setting up of fabrication and assembly units in our Country.

National Education Policy supplements the Start-Up ecosystem with the promise to open new career and entrepreneurship opportunities for students and youth in India. To this effect, many Technology Based Incubators are formed across the country encouraging incubation of startups. Almost every Higher Education Institution in our country has a Technology based incubator in their campus. The multiple missions setup by the Government of India as mentioned above further act as catalysts to investors enabling a vibrant startup fund-support ecosystem in our Country. Several efforts are taken by the Government of India to nurture Intellectual Property development and protection. The Department of Personnel and Training, Government of India has put in place several mechanisms enabling quick filing and granting of patents. Several Artificial Intelligence based tools are now available in market that enables comprehensive study of a proposed novel idea from the perspectives of novelty, similar competing global patents, and total addressable markets. Such type of analysis, at a very early stage of exploration, gives enormous level of confidence to the young entrepreneurs.

To sum up, the NEP 2020 has laid the path for a concept-to-product transformational chain. The challenge is to focus and align the different research, innovation and entrepreneurial efforts from academia and industry with the vision of the Government of India, to achieve the desired results. With the commitment shown by the Government of India and the cooperation of the educational institutions and industry, there is no doubt that these goals will be attained with full glory.



Chapter 3

Governance and Capacity Building of Teachers for Quality Education

-Prof (Dr) Avinash C Pandey

Director,

Inter University Accelerator Centre (IUAC)

Capacity Building is now considered an integral aspect of most professions. While Continuing Professional Development (CPD) does occur at different levels within Higher Education, compared to other professions, academia has been slow in considering formalized and ubiquitous embedded CPD programmes and undertakings within the career development structures during the lifecycle of teachers in Higher Education Institutions (HEIs). The quality teachers' community is always a potential catalyst to effect the changes. It plays a pivotal role in the development of knowledge building and knowledge economy and the CPD of faculty plays a crucial role in quality assurance and student-centric initiatives for learning outcomes. One of the hallmarks of NEP-2020 for being identified as a teacher in HEI is to continue to learn throughout the career. CPD is a key component of developing the teaching-learning ecosystem in the country and for the implementation of policy. The education of a teacher, teacher-educator, and/or academic administrator is never complete as they nurture youngsters as the future citizens of society. They need to pursue CPD to ensure they are never outdated and alienated.

Dr. Sarvepalli Radhakrishnan, a teacher, philosopher, and politician who dedicated his life to the betterment of education said:

“When we think we know, we cease to learn.”

The vision of Vishwa Guru, a world teacher, cannot be reinvigorated without the active involvement of the potential masses of quality higher education teachers, especially when their role is more important than ever.



Albert Einstein said, "Education is not the learning of facts, but the training of the mind to think" and this is the unquestionable truth with regards to the concept of CPD. Ensuring that the skills and capabilities are enriched and expanded upon beyond formal education will ensure proficiency and efficiency within the skillset of faculty members of HEIs.

The faculty in higher education should participate in CPDs at four levels of their professional career:

1. After the newly appointed faculty get acquainted with the teaching process and other support systems in HEIs during the initial days, their focus shifts to lay the foundations, facilitate the faculty to further develop and gradually adopt the pedagogic practices. [Faculty Induction Programme (FIP), Pedagogy including Technology Enabled Teaching-Learning]
2. Mid-career faculty (Domain Knowledge Updating/Recharging, Emerging Areas, Research Orientation, Assessment and Evaluation, etc.)
3. Senior Level (HoDs/ Directors/Deans) (Mentoring, Leadership, Emerging Areas, etc.)
4. Top Level — Leadership Development (for VCs and VC-level Professors): For effectiveness, the incumbent to the post of Vice-Chancellors and/or Directors may be compulsorily given the opportunity for participating in the Leadership for Academicians Programme (LEAP).

INITIATIVES

- i. AICTE's 8-module mandatory teacher certification program
- ii. Launched National Initiative for Training of Technical Teachers, ATAL FDPs in emerging areas for well performing teachers
- iii. Parakh, an IT enabled Students Learning Assessment and Faculty Assessment Module.
- iv. Leadership Development Program under LEAP & UKIERI
- v. Smarter Automation Engine for Universities (SAMARTH)- Technology based solutions for governance of HEIs starting from admissions to grant of degree

The focus of CPDs is mainly on developing the competencies corresponding to the teaching profession such as:



- the field of specialization and didactics of specialization in the educational disciplines of the teacher;
- the field of education pedagogy and psychology;
- the field of educational management and governance;
- the field of information and communication techniques applied in teaching and learning processes, in institutional management and data management; and
- inter-multi-trans-disciplinary and cross-curricular fields aiming at alternative and complementary training strategies, research and innovation, communication and commitment to community engagement and social environment, and inculcating leadership abilities required for academic administration.

The requirement and efficacy of CPD at different stages in the lifecycle of an academic is demonstrated in the following schematic:



Simultaneously, a rigorous research-based impact assessment of the online or face-to-face (f2f) teaching-learning, including delivery of CPDs, with a view to take mid-course corrective measures, is always desirable. The objective is to bring in systemic changes in:



- formal educational policies,
- the professional learning context,
- the content of the professional learning opportunities,
- the activities constructed to promote learning among all the faculty members by way of resource mapping and avoidance of duplication of efforts,
- the accreditation of professional learning processes,
- the responses of diverse teacher-learners at the different levels of the life cycle as teachers at the HEI, and
- the impact on diverse learners including social, personal, and academic outcomes.

To ensure accountability and transparency in outcome-based CPD, time-bound action needs to be initiated on the following:

1. *Mandatory participation of teachers/faculty:* can be made possible by instituting reward policies in parity with research or weightage in the accreditation/ranking (NAAC, NIRF, etc.).
2. *Professional learning:* should be evidenced at all stages of every academic's career making it self-directed and related to the needs of the individual.
3. *Pivotal role for the education departments of HEIs:* for the seamless integration of secondary and tertiary education by providing hand holding to teachers of secondary education for ensuring good quality input to HEIs.
4. *Responsive top management:* The LEAP programme at the top Level should be for VCs/ Directors of the national-level institute within three months of their appointment.
5. *Outcome-based impact assessment of CPDs:* by subjecting them for the accreditation by meta-accrediting bodies.
6. *Responsive HEI and academic administrator:* for supporting and offering financial support (in kind) for learning, allowing time off work to facilitate



study or attend courses, or allowing study time in work for the faculty in their personal learning as well as work-based learning skills, competencies, and behaviors for organizational characteristics such as culture, leadership, learning infrastructure.

7. *Fixing Accountability towards lapses in the Capacity Building exercise:* essential to ensure that faculty are properly trained and competent to do their work and HEIs carry out the professional work with due proficiency, caution, and diligence and with proper regard for the technical standards desired. Failures may invite penalties and faithful observance may be incentivized.
8. *Resource Mapping:* to cater to the need of capacity building of a large number of faculty. All the Institutions responsible for organizing Consistent Positive Direction Pinnacle Certification Courses (CPDPs), such as 66 HRDCs, 95 Centres of PMMMNMTT, 04 ATAL Academies and NITTT Centres of AICTE, and 04 NITTTTs must be mandated for their effectiveness through relevant, collaborative, standardized and supported CPDPs, personalized contents — built on identified needs and requirements of each stage of the teacher's life cycle, providing a suitable combination of learning space.
9. *Financial Factors:* Guidelines or codes of conduct for CPD activities in paid working time or with the help of participating professionals' fees instead of government grants.



Chapter 4

Quality Education: A Framework for the Enlightened Manas

Prof. Raghavendra P. Tiwari

Vice-Chancellor,

Central University of Punjab, Bathinda

Sustainable Development Goal-4 promises access to inclusive and equitable quality education and to lifelong-learning. The key term here, “quality education”, however, is not merely concerned with content delivery and rote-learning system evaluated solely on the basis of test scores. It is, in fact, a pedagogical and developmental system aimed at ensuring that the inherent potential of every child is optimally explored, and that they learn life-skills and enter society as holistic enlightened people, ‘manas’. In this way, they will become productive and aware global citizens, ready for the future. Former UN Secretary-General, Ban Ki-moon asserted, “Education must fully assume its central role in helping people to forge more just, peaceful, and tolerant societies.” According to Washington State ASCD (Association for Supervision and Curriculum Development), and Education International, Brussels, “Quality education is one that focuses on the whole child – the social, emotional, mental, physical, and cognitive development of each student regardless of gender, race, ethnicity, socioeconomic status, or geographic location. It prepares the child for life, not just for testing.”

By introducing in moral and spiritual components, this meaning of quality education may become more inclusive. Good quality infrastructure, including appropriate resources of Information and Communication Technology (ICT); quality teachers, curriculum and learning resources, pedagogy, evaluation, and research environment; a credible accreditation mechanism; and an overall quality eco-system created through proactive administration for narrowing skill-gaps will undoubtedly result in improved employability, including self-employment, which are the prerequisites



for actualizing the very essence of education. Quality education should also be able ensuring that learning outcomes facilitate sustainable development of individuals, communities, and societies and bring value and accountability for the hard-earned public money spent on education.

There is a growing appreciation of the Bharatiya view of education, according to which, "Every human being is a self-evolving soul and that the role of education is to help develop his own intellectual, physical, social, moral, emotional, psychological, aesthetic, spiritual and practical capacities to the maximum possible extent, and help him grow independently as an organic being." The reports of UNESCO on "Learning to Be" and "Learning: Treasure Within" are the manifestation of this appreciation. The take-home message from these reports is to develop learning pathways to revolve around learning to know, learning to do, learning to live together, and learning to be.

In the context of India, the true essence of quality education can be conceptualized through the views expressed by Indian philosophers on education. According to Swami Vivekananda, "Education is not the amount of information that is put into your brain and runs riot there, undigested, all your life. We must have life-building, man-making, character-making assimilation of ideas." He further asserted, "Education is the manifestation of perfection already in man." Dr. A.P.J. Abdul Kalam emphasized, "The aims of education are to build character, cultivate human values, build confidence to face uncertain future, and to develop a sense of dignity, self-respect and self-reliance." Jiddu Krishnamurti, in *Education and the Significance of Life*, stated that, "Conventional forms of education 'suffocate' our mind and heart by conforming to the incomplete understanding of the true meaning of life." Sri Aurobindo, insisted that, "Human development is essentially an unfoldment of inherent potentials; the individual is seen as an organismic whole who contains within own innate wisdom and motive force."

The following shloka from the Vishnu Purana:

*Tatkarma yan na bandhāya, sā vidyā yā vimuktaye;
Ayāsāyāpara karma, vidyānyā śilpanaipunam*

states that true knowledge leads us to liberation from bondage to nature and to its limitations.



Bharat became “Vishwa Guru” or “world teacher’ owing to the gurukul tradition of quality learning as was prevalent in ancient India. The ancient Indian tradition of gurukuls, the residential centres of learning, was prevalent in approximately 5000 BCE in the Indian subcontinent. These learning centres were supported by public donations; therefore, they had the freedom to decide the subjects to be taught, design their own curricula, pedagogy, and methods of evaluation. Sixteen subjects and sixty-four skill-based courses were taught and practised in these gurukuls. There were no examinations; the learning outcomes were assessed through continuous evaluation. Gurukuls believed that nothing can be ‘taught’. The gurus, teachers, were facilitators and guides. They did not train the minds of their students, the *shishyas*, but only showed them how to perfect their instruments of learning. Thus, the gurukuls successfully helped the students to develop self-confidence, self-discipline, character, social awareness, personality, intellectual, spiritual and emotional faculties, critical thinking, and to preserve knowledge and culture — all the essential components of quality education. Interestingly, the six levels of learning in Bloom’s Taxonomy (knowledge, comprehension, application, analysis, synthesis, and evaluation) are in essence similar to the six stages of learning prevalent in Gurukuls:

- The first stage of the study was listening, *shravanam*.
- The second was practice or the recitation of the text taught, *abhyas*.
- The third stage was immediate apprehension of the meaning
- The fourth stage was comprehension of results, *phala*.
- The fifth stage was the study of explanatory texts, *arihavada*
- The sixth was attainment of conclusions, *upapatti*.

Pedagogy was at the core of quality education in ancient India. For instance, Khanda 7, Sutra 29 of the *Apastamba Dharmasūtra* written by Haradatta states

आचार्यात्पादमादत्ते पादं शिष्यस्स्वमेधया; पादं सब्रह्मचारिभ्यः पादः कालेन पच्यते॥

The statement explains that quality learning happens in four quarters: one fourth from the teacher, one fourth from the intelligence of learners, one fourth from



discussion with peers, and one fourth with time, that is, experience gained from making theory into practice. Coincidentally, the four quadrants of MOOCs (e-Contents, e-Tutorial, Discussion, and Assessment) have a startling similarity with this pedagogy of learning.

Acharya Shankara opined that the process of learning happens in three stages: *shravanam*, *mananam* and *nidhidhyasanam*.

- *Shravanam* is the stage of acquiring knowledge by listening;
- *Mananam* is to reflect, to think, to analyse and draw inferences from what has been heard and to assimilate the lessons taught by the gurus; and
- *Nidhidhyasanam* means comprehension of the truth and its application in real life situations, the practice. This is the stage of realization.

Acharya Vallabha propounded that a good student should demonstrate the three qualities of *jigyasa*, *amaatsarya* and *shravandara*.

- *Jigyasa* is the strong desire, curiosity, the urge to learn. The process of learning is not merely a ladder to success but an inherent, burning, and perpetual desire or curiosity to know.
- *Amaatsarya* or non-avarice towards knowledge is the next quality of students. Student must not at any stage consider themselves superior to the teacher. They must respectfully accept that the teacher knows more than them and thus be humble and eager to gain wisdom from him.
- *Shravanadara*, implies that students need to be attentive, punctual, inquisitive yet humble while attending lectures. They must timely completion of assigned tasks The ancient Indian pedagogy, not only facilitated and encouraged questioning and free inquiry, but also laid great emphasis on gathering experience through observation and exploration.

This pedagogy helped impart quality education and prepare the youth for exploring the vastness of the universe and unravelling the mystery of its existence through a connect with and immersion in, nature. The Macaulayan system of education introduced in the mid-nineteenth century, however, not only destroyed the real soul of ancient Bharatiya pedagogy but also the very purpose of education to the extent



that an herculean effort, a *Bhagirath prayaas*, is needed to recover and restore it in its new and progressive *avatar* to meet the current expectations from the education system. We must integrate the ancient Bharatiya soul of pedagogy and education with the current learning system to make it relevant to the 21st century learners.

Implementation of NEP-2020

In this context, we need to look at the reforms embodied in NEP-2020 to restore quality in our education system. The NEP-2020 offers incredible opportunities to transform the existing education system through student-centric quality imperatives, such as, a learning outcome and skill-development-based multidisciplinary curriculum, experiential learning, ideation, incubation and innovation-driven pedagogical pathways necessary for critical thinking, and robust evaluation tools capable of assessing whether the predefined learning outcomes are achieved by the students, or not. Interdisciplinary, value-added, entrepreneurship, universal human value- focussed courses and a course on the Indian Knowledge Tradition are soon to become integral to the university curricula. Further, NEP-2020 empowers the learning system with quality-focused imperatives such as multiple-exit-entry, academic bank of credits, integration of technology, education in the mother tongue and or regional language, at least up to primary level, admission in higher education through a single window, digital university, national research foundation, national and international academic collaborations and building strong community connections.

Recent initiatives of the UGC, such as the model curriculum on a four-year undergraduate programme, guidelines on National Higher Education Qualifications Framework (NHEQF), guidelines on hybrid learning, twinning, joint- and dual-degree programmes, pursuing two academic programmes simultaneously, Common University Entrance Test (CUET) for admissions to UG and PG programmes, and the provision for Professor of Practice, will go a long way in improving access to, and in imbibing quality culture in, higher education. The Ministry of Education (MoE) and the UGC are burning the mid-night oil to prepare a facilitative roadmap for the effective implementation of NEP-2020 and universities have started integrating reforms envisioned in NEP-2020 with the existing framework of education.



The Higher Education Commission of India should soon see the light of day for facilitating the speedy and all-encompassing implementation of NEP-2020. Further delay may inflict irreparable damage to the education system, and deny students' access to quality education. The digital dichotomy needs to be bridged for leveraging the benefits of ICT, which is crucial for quality education. Capacity building of teachers is another critical area that requires immediate attention. Additional resources and manpower are essential for the seamless implementation of NEP-2020, implying that investment in the education sector has to necessarily increase. Most importantly, we the teachers need to re-imagine our roles, re-invent ourselves and draw strength from the ancient Bharatiya tradition of gurus, that is:

- *Adhyapak* (information provider),
- *Upadhyaya* (impartor of knowledge along with information),
- *Acharya* (developer of skills),
- *Pandit* (provider of deep insight into a subject),
- *Dhrishta* (impartor of visionary views on a subject and making the learners think in that manner), and
- *Guru* (awakener of the wisdom, leading from darkness to light).

This tradition exemplifies yet another similarity to Bloom's Taxonomy.

Conclusion

In a knowledge-based society, education is the foundation upon which economic vitality, health, and the overall well-being of the humanity rests. As such, ensuring quality in education should not be left to chance. In fact, the term "quality education" has to be synonymous with education that serves the current and emerging needs of the individuals, communities and the nation, and most importantly, enlightens the inner-self of humanity. The Government of India has demonstrated exemplary commitments in the implementation of NEP-2020 for infusing quality in our learning system.



Chapter 5

Accreditation and Ranking for Quality Assurance in Higher Learning

- Prof. S. C. Sharma,
Director,

National Assessment and Accreditation Council

Higher Education Institutions (HEIs) play a significant role in a country's socioeconomic, political, and overall development. The current global concern is Higher Education Quality Assurance and an ever-increasing interest in encouraging development in the higher education system (HES) quality standards. Consequently, if India desires to be the knowledge-based economy and the most dynamic education system in the world, then the HES should demonstrate that it appreciates the quality of its programmes and has the readiness to employ the mechanisms for quality assurance. Given the need to compete globally, our educational system should use self-benchmarking for incremental growth in quality. Our HES is continuously expanding in response to the increased social demand for higher education.

Even though the enrolment ratio is increasing, the quality of education is a concern, and Indian institutions are slowly moving towards the global standards. In this context, the ranking and accreditation of HEIs, both colossal tasks aimed at promoting competitive excellence, improvements, quality assurance, and the sustainability of HEIs, are critical. The proliferation of studies by researchers on the function of assessing bodies in promoting educational quality demonstrates this. Accrediting and ranking agencies of India, like the National Assessment and Accreditation Council (NAAC), the National Board of Accreditation (NBA), the National Institutional Ranking Framework (NIRF), use an umbrella framework for accrediting and ranking HEIs.



The Role of Ranking and Accrediting Bodies

The accreditation outcome documents provided by the NAAC, NBA, and NIRF ranking status, promote competitive excellence in the country's HEIs and benefit students pursuing higher education by assisting them in selecting the finer institutions. All three frameworks/organizations are giving significant weight to teaching and learning practices, which are the foundation of any HEI. This also assures that all HEIs work hard to improve their accreditations and rankings; that there is no room for complacency among them; and that they work harder each year to ensure their students get quality education. The criteria/parameters used for the Accreditation and Ranking of HEIs, which will help institutions to excel in quality, are portrayed in Table 1.

INITIATIVES

- i. Simplified Online Accreditation Process by reducing number of parameters from 102 to 57.
- ii. Outreach programmes and exchange of Best Practices by NAAC
- iii. National Educational Alliance for Technology (NEAT) for better Learning Outcome
- iv. Awards for sustainable Green Smart campuses
- v. AICTE's Approval process made fully online

Table 1: Criteria/Parameters for Assessment

NAAC Criteria	NBA Parameters	NIRF Parameters
Criterion 1 - Curricular Aspects	Criterion 1- Vision, Mission and Programme Educational Objectives (PEOs)	Teaching, learning and resources
Criterion 2 - Teaching-Learning and Evaluation	Criterion 2- Programme Outcomes	Research and professional practices
Criterion 3 - Research, Innovations, and Extension	Criterion 3- Programme Curriculum	Graduation outcomes



Criterion 4 - Infrastructure and Learning Resources	Criterion 4 - Students' Performance	Outreach and Inclusivity
Criterion 5 - Student Support and Progression	Criterion 5 - Faculty Contribution	Peer Perception
Criterion 6 - Governance, Leadership, and Management	Criterion 6 - Facilities and Technical Support	-
Criterion 7 - Institutional Values and Best Practices	Criterion 7- Academic Support Units and Teaching-Learning Process	-
-	Criterion 8 - Governance, Institutional Support, and Financial Resources	-
-	Criterion 9 - Continuous Improvement	-

Assessment of HEIs for accreditation and ranking as per the set criteria/parameters of NAAC, NBA, and NIRF involves quality-enabling mechanisms (Table 2) pushing institutions to meet and sustain their standards, in turn increasing conviction and self-assurance among the stakeholder's boosting accountabilities. This helps stakeholders to build a specific level of trust on the institution with the accreditation and/or ranking received. Accreditation and ranking leads to accountability and higher levels of quality teaching-learning. The student, as an important stakeholder of higher education, would feel secure knowing or selecting an institution or programme that has qualified in rigorous mechanism and evaluations done by such bodies assuring the quality of higher learning.



Table 2: Quality enabling mechanisms of NAAC, NBA and NIRF assessments

NAAC	NBA	NIRF
Undertakes institutional assessment and accreditation (A&A) considering 5 (five) years of data. NAAC A&A process and grading.	Undertakes programme accreditation. Institutions can apply for NBA whereby a programme in an approved institution is critically appraised to verify that the institution or the programme continues to meet and/or exceed the norms and standards prescribed by the regulator from time to time.	Undertakes institutional ranking considering HEIs either as a whole e.g., university, college, or as a subset viz., engineering, management, medical, etc., one year/current year data for some metrics and three years data for some
Seven criteria are considered for institutional accreditation.	Nine parameters are considered for programme accreditation	Five parameters are considered for ranking.
Onsite peer team visit is carried out to the institution.	Onsite team visits take place for outcome of the assessment.	Onsite team visits are not carried out.
Assessment is based on a combination of quantitative and qualitative metrics.	Assessment is based on a combination of quantitative and qualitative metrics.	Assessment is based on quantitative metrics.
The visiting team will interact with students, faculties, parents, alumni and employers. Online Student Satisfaction Survey (SSS) is conducted. Students participate anonymously in the survey.	Visiting team will interact with students in the class in the absence of faculty members to assess the level of comprehensiveness of a course.	A perception survey is conducted anonymously.
Yearly monitoring of quality assurance in the institutions through AQAR.	Institutions that have already been granted accreditation, are required to submit the compliance report at least six months before the expiry of validity of accreditation.	No yearly monitoring of quality assurance in the institutions.



Scope of redressing the grievances through appeal mechanisms after the declaration of accreditation results.	Appeal mechanisms is in place for institutions to appeal on the assessment results	No scope for redressing the grievances after the declaration of rankings.
Discloses all the applications for assessment and accreditation results of all the institutions applied, in the public domain.	Discloses the accreditation status, reports of the programmes accredited in the institutions.	Discloses the ranking with reports of the top 100 institutions in each category. It will not disclose the reports and ranks of the next 100 institutions.
Outcome of the assessment is Cumulative Grade Point Average (CGPA) and Grade	Outcome is differential years accreditation based on the assessment score secured	Outcome of the Ranking
Accreditation valid for five or seven years	Accreditation status ranges from two to five years	Annual process

The establishment of NAAC as an autonomous institution of UGC, of NBA by AICTE, and of NIRF by the Ministry of Education (MoE) has succeeded to focus the attention of HEIs towards enhancing the quality of their academic and administrative system outcomes. These initiatives have also led to healthy competition among the HEIs for improving their quality provisions in order to obtain better accreditation grades and national and international-level rankings.



Chapter 6

Digital Empowerment and Online Education

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It was the time when higher education in India was thought to be limited by or handicapped with several gaps due to which it was not able to meet the requirements and current demands of the university youth. No doubt since a decade the transition has started. The National Education Policy, 2020 (NEP-2020) has the potential to fill these gaps and provide state-of-the-art education. The success of the policy however depends on its efficient implementation. The policy visualizes education to be more holistic, multidisciplinary helping individuals to be more multi-talented contributing more to the growth of the nation. This transformation requires a huge investment of not only infrastructure but of human resources too. The structure and system of online education through digital empowerment can play a vital role in meeting these requirements cost-effectively. They will not only be limited to offering regular graduate and postgraduate programmes but also be facilitators in research activities and teaching multidisciplinary and skill-oriented courses. The usage of the internet to gain education has long been seen as a unique option for adult students who are interested in pursuing higher education. The COVID- 19 outbreak, on the other hand, has driven educators and students to online educational platforms. The concept of online teaching-learning (ODL) is not new to India as one will agree that Eklavya was the first student of this system of education. It executes the philosophy of Swami Vivekananda, who believed, "If the poor cannot come to education, education must reach them at the plough, in the factory, everywhere."



India, under the visionary leadership of the Honourable Prime Minister Shri Narendra Modi, marches ahead with the Digital India Campaign. As a result, one will be able to witness India as a digitally-empowered society and knowledge economy. The announcement of a Digital University in the National Budget confirms India's vision and commitment to make education more accessible, inclusive, and internationalized. The online education platform or Digital University will be a platform to increase access to a quality higher education programme through the innovative use of ICT tools with the aim of increasing the Gross Enrolment Ratio (GER) of the country, which is targeted to be 50 per cent as per the NEP-2020, promoting the internationalization of education and lifelong learning as stated in the policy and ultimately emerging as a leader in virtual education on the world map.

Educational technology and technology in education will play a vital role in this transformation. It will also improve the educational processes and outcomes. Here again, being digitally empowered is a pre-requisite for the learners. Digital literacy and empowerment need to be looked at from a different point of view. Everyone at the periphery as well should have availability of and access to the technical tools and the network to avail the benefits of online education.

Therefore, the first and foremost condition is the disappearance of the community of have nots in the field of education with reference to tools and network. During the current pandemic it has been observed that families with a single or a limited numbers of mobile phones at home could not help all their kids with online education. Girls suffered more in such a situation, due to the generic tendency of giving preference to boys in such situations.

The second condition is digital literacy for digital empowerment. Again, during the pandemic it was seen that many of the teachers themselves were not comfortable using ICT for teaching or communicating. It is very important

INITIATIVES

- i. National Digital Library- Online Searchable Content 4 crore books
- ii. Simplified ODL & Online Regulations
- iii. Admissibility of Online Course content increased from 20% to 40%
- iv. Increased SWAYAM Courses: 3500 courses
- v. E-PG Pathsala is providing e-content for PG programmes



to professionally train both teachers and learners to make the best use of technology for education.

In the matter of online education, India has to come out of the old-age thought process that skill courses or vocational and professional courses cannot be taught through the online mode. In the current scenario Indian classical dance, theatre, playing musical instruments or imparting technical knowledge, all can be and are taught online. By using the Google App, one acquires the knowhow for a simple plumbing or electrical job or for cooking a delicious meal. There is no reason why an academic institution cannot teach online. As NEP-2020 envisages, vocational and skill training will also be imported through the online or ODL mode.

Online teaching-learning or the digital university will surely offer a platform for the conventional programmes or courses such as the UG or PG, bachelors or masters courses in the Arts and Commerce, or similar and at the same time online teaching through Digital University will offer many more off-beat courses. It will be a platform where subjects such as value education, performing arts, science, social service, and Vedanta philosophy will be offered in combination with skill or science courses.

Courses with true learning and not just qualifications need to be started. They must provide inclusive learning with a last-mile-reach to learners. Courses need to encourage local knowledge in local languages. Courses require no prerequisites for the learners.

Very soon, the best industries including the Micro, Small and Medium Enterprises (MSME), will come with their own tailor-made courses onto the online educational platform, and from where they will directly place or absorb learners for their industries. Industry, and academia may be consulted jointly, hereafter, for proposed courses for example, Larsen & Toubro (L&T) facilitating courses at the Skills University, Gujarat.

NEP-2020 emphasizes the teaching of the 64 Arts that are mentioned of ancient India, cultural studies, and languages, as mentioned in the three-language formula in NEP-2020. The online platform or Digital University surely helps in providing education in regional languages to learners in any corner of the world. It also provides ample opportunities to teach various languages as well as arts on digital platforms. Online teaching-learning will compel HEIs to create content in various languages and formats considering various levels of learners and their learning ability. This will



help our indigenous and local knowledge, language and literature to not only survive but to spread and increase in popularity.

Since the beginning of the 21st century, and especially over the last decade 2010 to 2020, digital technology has advanced rapidly. It has had a profound impact on higher education. Increasingly, academics' work and products are being made public because of their active participation in the digital information economy. Blogging, tweeting, curating Facebook pages, writing Wikipedia articles, engaging in professional networking sites like Academia.edu, Research Gate, and LinkedIn, and creating podcasts and YouTube videos are just a few examples of how digital media may be used for academic objectives.

Negative impact: While several benefits and possibilities come up with online learning, one must see and recognize the negative side to avoid the negative impact. There is a possibility of academic research not being taken seriously enough if it is more easily available to the public. Especially, as it is present less formally. To have effective technology for the feedback from the learner's assessment and evaluation are a challenge in an online system. At the same time, the pressure that is created on academics to participate cannot be neglected. To create quality content for a MOOC or an online course is a big challenge. Even academic publishing norms and their reaction to online and digital platforms need to be revisited and reviewed.

Therefore, the NEP-2020, released by the present Indian Government is forward-looking and aims to fulfil the requirements of a 21st-century Bharat. It has the holistic aim of transforming the nation into a "more vibrant, socially engaged, cooperative community and a happier, cohesive, cultured, productive, innovative, progressive and prosperous nation" (NEP-2020). It covers the targets of Sustainable Development Goals as well.



Chapter 7

Equitable And Inclusive Education

- Prof. T.V. Kattimani

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The National Education Policy, 2020 (NEP-2020) talks of providing quality education to all. NEP-2020 focuses on an all-encompassing education in the mother tongue, education with skills, and incorporating practical skills of independent neighborhoods, which are readily available in society. NEP-2020 recommends implementing this structure from primary to higher education. The Policy has a great belief in the universal educational system — which not only entails education for all but ensures quality education for all sections of society including the economically- and socially- deprived sections such as women, transgenders, tribes, and dalits. This is what makes NEP-2020 a step above the rest.

NEP-2020 is all-inclusive also because for the first time in the history of education, an education policy mentions education for transgenders. It emphasizes the special needs and necessities such as specialized residential hostels, scholarships, fellowships, and research projects, priority in employment and equal opportunities that would help transgenders to merge with the mainstream.

NEP-2020 also focuses on the tribal and rural communities of India who already have rich indigenous knowledge. Students from tribal and rural backgrounds already possess natural skill sets, which they have inherited over generations. They have tremendous aptitude and capability to blend in and work under any conditions, irrespective of their social background. This makes them very special and this background is an important aspect that needs to be emphasized. NEP-2020 recommends incorporating such indigenous knowledge into textbooks. The



Policy recommends boarding and residential schools, where subjects such as pure sciences, social sciences, and mathematics are taught in tribal languages for the economically, socially backward, and nomadic tribal communities.

NEP-2020 has been drafted in such a way that with its full-fledged implementation it can entirely eliminate caste-based discrimination, caste-based employment, and other forms of discrimination. It strongly emphasizes removing discrimination at any level of society.

Till the recent past, skill sets appeared to be caste- or community-specific. NEP-2020 is proposing an all-inclusive structure so that all students or learners have uniform access to skill sets].

NEP-2020 has been drafted using an all-inclusive approach after consulting more than 1000 institutions, NGOs, and religious groups that manage educational institutions. While drafting the Policy utmost care has been taken to accommodate every religion, culture, and ethnic group, keeping the essence of being all-inclusive intact. Recommendations such as teaching in the mother tongue and in state and tribal languages, education for women, the minorities, transgenders, tribals, and rural communities endorses the all-inclusive nature of the Policy.

Seventy-five years ago, while drafting the Constitution of India, Dr. B.R Ambedkar had clearly stated that every individual must have access to quality education. NEP-2020 reiterates this inclusive equitable education. Emphasizing that the opportunity to learn and excel is not lost merely because of the circumstances of birth or background, NEP-2020 reaffirms the need to bridge all social gaps, and provide access and participation in school education.

NEP-2020 focuses on reservation for the downtrodden communities. For this purpose, the Policy proposes additional action to be adopted by institutions of higher learning irrespective of the governments, so as to develop and support local Indian languages or to have a bilingual-based format of teaching, and to enhance the gender balance in admission to HEIs.

The Policy also addresses the system of reservation by bringing in more opportunities for scholarships, fellowships, and research with an open spirit of participation and competition.



INITIATIVES

- i. Common University Entrance Test (CUET) in 13 Languages
- ii. JEE (Mains) and NEET (UG) conducted in 12 Indian Languages & English
- iii. Engineering Courses in 6 Indian Languages in 20 Engineering Colleges across 10 States from 2021-22 (Hindi, Tamil, Kannada, Telugu, Marathi & Bengali) AICTE's AI Auto Translation Tool/Portal: Translation into Indian languages
- iv. Translation of MOOCs on SWAYAM
- v. Supernumerary Seats in IITs/NITs
- vi. Construction of Hostels in Technical Institutions for SC/ST Students.
- vii. AICTE Scholarship @Rs 50000 pa for all Special Students
- viii. Pragati Scholarship for SC/ST Girl students increased from 2000 to 5000
- ix. SAKSHAM Scholarship for Divyang Girl
- x. 12 lakh free Coupons worth Rs. 254 Cr for SC, ST, OBC, EWS students to access courses by EdTech companies: NEAT by AICTE
- xi. ICTE Technical Book writing and Translation:12 Indian languages
- xii. Students for HE in Diploma and Degree

NEP-2020 believes in the “*local pe vocal*” policy. Our nation has substantial soft power, which has not been exploited so far. There is an urgent necessity to speak, study, and research in India. To conquer the world, we need to encourage the practice of the local skills and know-how. Indian music, art, culture, and soft skills are the soft powers of India. As citizens of this country, we have to learn the soft powers so that the communities and society are strengthened.

The people of our country's diverse tribes and communities are born artists. They love to dance and sing. They make their own musical instruments, which are used by their musicians. The Kinnars is among the famous musicians of India. The Gond tribal paintings, which are based on the “*Natya Shastra*”, of India's ancient wisdom, are world famous. With the vast knowledge on these groups, their music, art, culture, and society, NEP-2020 has endeavored to include this rich diversity in a big way. While developing the Policy, it

was observed that the people of the various tribes are naturally most competitive in sports. Living with nature, always climbing mountains and trees, swimming across rivers to collect wild honey and fruits, and walking for walk miles together it is natural for them to do a lot of physical activity. Tribals are physically much stronger, and therefore, NEP-2020 commends the importance of sports and physical education in



all educational institutions, trying to integrate them as a part of the core curriculum. This will certainly give an important boost to the youth thinking of a future in sports, which will be a mind-blowing concept in the Indian society of the 21st century.

Primary education is below the national average in all 112 aspirational districts of our country, which are densely populated with scheduled tribes, scheduled castes, and nomadic tribes. NEP-2020 strongly emphasizes the special need of the educational upliftment of the people of these regions.

The NEP-2020 is the largest consultation process in the country after the constitutional debate committee of India. Because of its outreach, and its flexibility and inclusivity, the Policy is accepted by all sections of society. It has covered all the important and critical aspects of the current scenario so as to fulfil the future demands of our country. The NEP-2020 is one of its kinds and is perhaps the most important, most potent, and most influential policy that India has made and witnessed.



Chapter 8

Bringing the Indian Knowledge Systems from Libraries to Laboratories

- Prof. Ganti S Murthy

National Coordinator of the IKS division of MoE @ AICTE

The oldest living civilization of the world in the Indian subcontinent has been the knowledge and manufacturing powerhouse for most of known history. A dharmic culture that emphasizes the development of all dimensions of humanity with emphasis on living in harmony with oneself, one's environment, and with the universe at large, thrives on this karma bhoomi. It is self-evident that the existing models of development relying on unlimited extraction of natural resources are unsustainable and are inherently in conflict with the nature. The rising economic inequalities around the world and existential crises necessitate new paradigms of development that are in harmony with the nature.

There is a भारतीय (Bharatiya) way of life that is not only sustainable but strives for the welfare of all. This way of life has been transmitted through the unbroken traditions of the भारतीय-ज्ञान-परंपरा (Bharatiya-Jnana-parampara, Indian Knowledge Systems, IKS) over several millennia. The IKS in this context refers to all the systematized knowledge that was created by Indians in the Indian subcontinent over the millennia and was transmitted through oral traditions, manuscripts, texts, and traditional practices. The IKS exists in all Indian languages in multiple forms.

The vibrant knowledge traditions that sustained a way of life in harmony with the self, with society and with nature were disrupted due to invasions and shortsighted rulers. This resulted in a paucity of genuine scholars, which led to extremes of opinions ranging from "Indians knew everything since the prehistoric times" to "Indian learnt everything from the West." Therefore, there is an urgent need for the Higher Educational Institutions (HEIs) to be the leaders to rejuvenate and revive IKS. Questions about the relevance and value of IKS in the 21st century are natural and



must be addressed comprehensively. These questions become even more important as we reformulate the curriculums in the context of NEP- 2020.

The relevance and importance of IKS traditions stems from two aspects:

At the philosophical level, understanding and appreciating the IKS traditions will provide justifiable reasons for our students to be proud of our heritage and this would turn them into confident citizens of India.

At the more practical level, the vast traditions of IKS have much to teach us in terms of addressing current existential crises such as climate change and sustainable agriculture. For example, the Grand Anicut (the ancient Kallanai Dam) built across River Kaveri in around 150 CE and the connected systems of ponds as built by the Cholas over 1000 years ago can teach us how to handle increasingly variable weather projected under multiple climate-change scenarios. Methods for seed treatment, pest control, the preservation and rejuvenation of soil microbiomes described in the agricultural texts such as vrikshayurveda, vishvavallabha, krishiparashara, and lokopakara among others are very important today. These methods are directly applicable in our transition from environment-degrading industrial agricultural practices to more sustainable alternatives without jeopardizing our food security.

One of the challenges with the IKS-related activities is the siloed structures between the traditional IKS institutions such as Sanskrit Universities, gurukuls and the modern educational institutions. Many traditional scholars are often not associated with the established institutions, and it is important to utilize their scholarship to advance the IKS mission. Therefore, private, and public institutions, universities, and even well- respected scholars not associated with any institution should also be supported considering the unique nature of the IKS. We must forge collaborations between faculty members from traditional learning institutions along with those from STEM institutes (where the major subjects taught are science, technology, engineering, and mathematics), to engage in transdisciplinary research, which is also the need of the hour to explore the application of IKS in contemporary knowledge scenarios.

The NEP-2020 recommends that the IKS be integrated into curriculums at all levels. A multipronged approach will be needed to rejuvenate IKS and incorporate it. A strong focus on capacity building at the institutional, individual, research, and student level is needed. Authentic verified references, course materials, and textbooks



are essential for developing several courses that are discipline specific and aligned with the interests and needs of the students. Appropriate teacher training at all levels is critical for the success of these initiatives. The foundational bedrock for these efforts is to establish IKS Centres in various institutions across the country to develop institutional capacity to support the research, education, mentoring, and outreach activities. Once such centres are established, then it is important to support the individual researchers working in the IKS areas to conduct transdisciplinary and collaborative research generating new knowledge. These two efforts will lead to rejuvenation of the original research in the IKS areas.

INITIATIVES

- i. Establishment and functioning of Indian Knowledge Systems Division of MoE at AICTE.
- ii. 13 IKS Centers opened in HEIs and 36 Research Projects sanctioned
- iii. Technical Book writing being undertaken in Hindi, Marathi, Bengali, Tamil, Telugu and Kannada - 216 Books including Book on IKS
- iv. Identification of 128 Online MOOCs courses and their conversion in Regional Languages
- v. 400 students provided IKS internships for 2 months under 200 experts

To be sustainable in the long term it is essential to train younger scholars and students. Introduction of mandatory IKS courses, IKS minor and perhaps even IKS degrees at the master's levels are steps that are essential to create IKS awareness and a high-quality workforce that can contribute to IKS transdisciplinary research. Therefore, developing courses in the higher educational curricula, under several categories such as introductory, multidisciplinary, and specialty, is critical. These courses could be initially MOOCs-based to ensure high quality delivery and wide dissemination. Using the IKS centres and research initiatives to develop discipline-specific specialized courses will lead to an integration of research and teaching. Teacher training during the induction and mid-career refresher programmes in the IKS-specific modules and courses will help in high quality delivery of IKS to students.

Text mining and documentation, outreach and dissemination activities, student internships, faculty development programmes, MOOCs, and workshops for capacity building in research proposal writing, all contribute to the primary goal of infusing IKS into the educational and research curriculums.



We need to understand our heritage and demonstrate to the world the “भारतीय way” of doing things if we aspire to be Knowledge Leader in this century and be the “Vishwa Guru” (the world teacher). Incorporating the IKS into mainstream educational curriculums is the first crucial step in this direction.

About the IKS Division

The IKS Division of the Ministry of Education at AICTE was established with a vision to promote interdisciplinary and transdisciplinary research on all aspects of IKS, preserve and disseminate IKS knowledge for further research, and societal applications. The IKS division supports and funds the establishment of IKS centres, and interdisciplinary and transdisciplinary research in IKS. The Division conducts internship programmes for undergraduate students in addition to conducting faculty-development programmes, workshops, text mining and documentation projects, and many outreach activities in partnership with other institutions.



Chapter 9

Perspectives of Skill Development and Employability through NEP 2020

- Prof. Indranil Manna
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Swami Vivekananda said, '*Education is the manifestation of the perfection already existing in man*'. The scientific genius Alber Einstein also felt '*Education is not the learning of facts but the training of the mind to think*'. While the process of learning begins the day we are born and continues till we breathe the last, formal education through structured curriculum and discourses is administered for a given tenure with a specific goal and rewarded with a certificate, diploma or degree that enables one to pursue a certain career option and advance in the profession. Education is an empowerment to understand the relationship between an individual on one hand, and the society or surrounding those nurtures us, on the other hand. This empowerment grows by assimilation of data or information into knowledge that eventually sublimes into wisdom through study, understanding, practice, experience, and realization. Education guides but does not guarantee entry into the learned society. Several leaders who made significant contribution to human civilization did not receive university degree. Plethora of examples exist all over the globe to prove that individuals can make lasting contribution and significant difference to various segments of society who have had no formal education. However, those are genius with God-gifted ability to learn from the nature and surroundings without structured education and mentoring. This difference between an ordinary mortal and a genius must be appreciated with humility. Therefore, the normal order always ordains us to pursue formal or structured education to earn a degree that entitles us to develop specific competence and perform certain job to not only earn a living but also to justify our very existence as a useful member of the society.



Education is domain oriented at the beginning but inter-disciplinary eventually. One may pursue science, humanities, engineering, commerce, music, art, sports, or any direction one chooses to profess in his or her future life depending on what interests him or her to make a living and excel in life. The journey progresses through stages of primary, secondary or tertiary levels with various forms of study, training, skilling, and assessment.

National Education Policy 2020

India, the 2nd largest country population-wise and 5th largest economy of the world, aspires soon to emerge as a global knowledge center by pursuing the path of '*Atmanirbhar-ta* or self-reliance'. NEP 2020 proposes several sweeping changes like converting 10+2 years of schooling to 5+3+3+4=15 years of nursery or elementary to pre-university level of education, allowing lateral entry and exit options at multiple points for pursuing a flexible and cross-disciplinary or boundary less education, earning course credits and accruing the honors in a credit bank and transferring them from one university to another, emphasizing research component in higher education, creating an overarching National Research Foundation for overseeing research and funding across all disciplines, encouraging internationalization with reversible flow of students, scholars, researchers and teachers, employing digital platform more effectively for spreading education to all with gender balance, and stressing the need for much greater outlay on education by the Government.

This policy boldly professes that education should be designed with a large degree of inclusivity, adaptability, inter-disciplinarily and competitiveness. To be more precise, NEP 2020 proclaims that the output or outcome and skilling is more important than the input and both teaching and research must focus on utility, modernity, and flexibility. With provisions like flexible entry and exit, multiple degree option, partial or total credit transfer and combining knowledge and credit from multiple subject domains to earn more than one degree are the hallmarks of NEP, 2020. NEP emphasizes the need to establish a novel education system with pyramidal foundation and stage-wise growth that will facilitate creation of a robust eco-system and smooth transition plan to achieve a significantly large gross enrolment ratio (GER) for larger societal benefit and economic prosperity.



Demographic Dividend

With over 1.3 billion people, out of which more than 2/3rd being below the age of 35, India certainly enjoys ample demographic dividend that no other country on earth enjoys at this moment. Even more significant is the fact that India is poised soon to emerge as the youngest nation in the world with an average age of 28. If this demographic dividend is to be fully utilized, appropriate education, training and skilling is the only way to move forward and reap the benefit. Though NEP aims a very logical and attractive proposition of modernizing the entire education platform and structure, its implementation remains the biggest challenge or task before the country can proclaim its demographic dividend and realize the potential and impact of NEP 2020.

Train the Trainers

Knowledge is a living entity and can never be considered as a volume that may remain static and independent of time. Though learning continues throughout the journey of life, the society in its urge to constantly improve the standard of living, must continuously evolve with creation and assimilation of new knowledge and capacity. Learning should be a well-coordinated and smooth journey to win over the existing and emerging challenges, address to the new aspirations and continually emerge better, stronger, and bolder than ever before. The teachers, who are the enablers and guides to impart new knowledge, hone the skills, and improve the ability of the pupils must also update their own knowledge base and skill set continuously. Therefore, they may also periodically enroll to refresher courses, training, and workshops to remain well informed about the recent developments and future trends. The teaching methodology also must evolve in course of time to reach out to the larger masses through technological interventions, distant education tools, and digital platforms.

Skilling by Internship

In order to make education not only industry friendly, but also sufficiently equipped for entrepreneurship, translational research and grounded to reality with



adequate awareness about the current and future social and national challenges, it is absolutely essential that the structured curriculum at all levels of certification, diploma and degree oriented training should lay necessary emphasis on practical problem solving capability through project based learning, internship with industry and business organizations. The training and skilling must equip individuals up to the level of designing and developing models, prototypes and pilots for field trials and demonstration.

Thomas J. Watson, the pioneer in the development computing equipment for International Business Machines (IBM), USA advised: 'the way to succeed is to double your failure rate'. Thus, failure is not only the pillar but also an essential ingredient to ultimate success. An exercise that allows an individual to experiment, apply and evolve an appropriate methodology for creating a solution through completely individual effort without mentoring, monitoring or supervising always will produce a long-lasting effect that will remain ingrained with the individual for life without the need of memorization or regular practicing. This is why a young mind, not burdened with loads of experience and knowledge, is not afraid to falter and hence is more equipped to innovate and succeed. While developed nations have adopted such project-based learning and internship as a part of teaching methodology and curriculum of engineering education long ago, similar practice in India is adopted and implemented only in some of the reputed institutions on an experimental basis. We must adopt such bold methods sooner than later.

Digital Platform Based Education

A glass half-empty is also a glass half-filled. If the Covid-19 global pandemic created a havoc and brought the entire world almost to a grinding halt, it also allowed the humanity to learn how to survive and evolve against the biggest adversity in our living memory. In educational sphere, distant education through recorded lectures and study materials was known and practiced to a limited extent for decades but was never adopted and pursued the way it was practiced the world over using digital platforms of various kinds as a substitute for physical and conventional mode of lecturing, tutoring, and educating during the peak of the pandemic. Even simulated experiments were conducted as a standby method for laboratory-based experiments and training. While there can be no substitute for imparting education though direct



interaction between a teacher and the pupils in a classroom, it is now widely believed that digital platform based distant education can surely be a very economical, effective, and useful supplementary method to conventional pedagogy to reach out to a larger audience, allowing unparalleled convenience of easy access all the time and any time, and flexible learning of specific subjects, modules or topics as and when necessary. Thus, there is no denying the fact that the digital platform based distance and mass education equipped with means for mass communication, lecture repository, and online education with provisions of examination and certification are currently the order of the day and will stay as a supplementary avenue in years to come. Undoubtedly, it can make a huge difference to spreading quality education to the masses through electronic media.

Stimulation, virtual experiment, and augmented reality are definitely future directions of development for higher level of learning. However, practical training with adequate and appropriate infrastructure in any discipline is a must and cannot be dispensed with. Such training will improve the employability of students.

Manufacturing

Manufacturing is an integral part of any major and sustainable economy in any country. While contribution of manufacturing to our national GDP was indeed about 40% before and at the time of independence, currently the same to India's gigantic economy of nearly \$ 3 trillion is possibly less than 20%. The Honorable Prime Minister desires this contribution to rise immediately to over 30%. There are several economies in the world both from Europe and Asia who have significantly improved their manufacturing base and consolidated their economy with sustainability and insurance against financial meltdown or collapse of the financial and service sector. Currently, Indian economy is contributed by more than half by the services and financial sector including information technology. In order to promote manufacturing and make it a major contributor to the national economy, it is imperative that education, especially engineering education must emphasize the need of imparting appropriate skill sets for manufacturing in all possible engineering sectors including electronics, electrical, mechanical, chemical, and biomedical. Such intervention would greatly improve the employability of Indian youth in the near future.



Implementation of NEP

A recently organized national symposium on “Opportunities and Challenges of Implementation of National Education Policy for Engineering Education and Profession”, held as a part of the Foundation Day celebration of Indian National Academy of Engineering (INAE) on April 20, 2022 with Dr K Kasturirangan, Former President of INAE and the principal author of NEP 2020 as the Chairman of the panel made a number of important recommendations that can make a significant difference to skill development and employability in engineering profession:

- Engineering is a profession of proving practical or practicable solution, thus, hands-on training with experiments, demonstration, projects, modelling, and simulation should be the primary focus of engineering education.
- As our nation is moving towards knowledge society, amalgamation of knowledge and skill development should be the focus of curriculum. Engineering training must inculcate the spirit of innovation.
- Translation of best practices from top 1% government funded institutions should percolate to less privileged and lower ranking (at least 30% institutes) in a time bound manner (through various quality improvement schemes and Memorandum of Agreement) as a measure of social responsibility.
- Undergraduate engineering education must contain a generous supplement and mix of humanities, economics, liberal arts, and project-based learning component. Curriculum must ensure and underline strong link between science, technology and society appreciating multi-cultural background and attributes of the students.
- Engineering education without practical training or exposure is incomplete. Hence for better employability and deployability, a large initiative is needed to find enough seats and opportunities for summer and winter internship for the engineering students in appropriate industry, production houses and R&D centres.
- Industry should sponsor projects of direct relevance to them in all Tier I, II, and III institutions in their neighbourhood to enhance the quality of engineering education and training.



- Systems approach instead of training of only unit processes needs to be introduced in engineering education (for all round development from drawing and designing for components and integration of them into the final machine or system). It is necessary to innovate by design and not by accident. Hence, design thinking and project management should also be taught.
- Research must complement teaching in engineering education to complete and update the knowledge base for engineering and technology. Thus, research for engineering and technology should emphasize the need for translational aspect (to various Technology Readiness Level or TRL) in collaboration with industry besides conducting pure and applied research in the initial stage. Translation must aim conversion of innovation to prototype and field trials with an eye on eventual industrialization or commercialization.
- NEP desires providing equal access to education to all including women, students with special mental and physical ability irrespective of region, language, caste or any other social and economic bias.
- De-stigmatisation of vocational education through rebranding is necessary. Vocational education can be given in a physical mode and universities can roll out programmes along with industry clusters in the vicinity.
- Bridge courses may be designed for students from one discipline or degree program to move into another area or program where such transition is possible.
- Special provisions in the university curriculum will be necessary for successful implementation for multiple entry and exit options.
- Superannuated colleagues should move to hinterland to improve the Tier II and Tier III institutions. Industry should sponsor projects in Tier II and Tier III institutions.

Concluding Remarks:

In India, an educated youth, apart from being a self-employed businessperson or entrepreneur, may pursue a career in multiple directions. A recent survey shows employment opportunity is distributed in various major sectors as: engineering



(23.5 %), accounts and finance (11.8 %), computer application and information technology (9.6 %), medicine (8.1 %), management (6.7 %), designing (6.1 %), law (4.3 %) and various other options (29.9 %). Each job demands certain skill sets that are based on some primary training and qualification and subsequent improvement through on-job training, experience, and mentoring. This is exactly why the need for proper skilling and empowerment cannot be better emphasized. In order to promote this culture and trend, the Government must handsomely invest in creation of a proper eco-system comprising modern education, infrastructure, rules, innovation and entrepreneurship park, loan and easy financing avenues, tax benefits and other financial incentives, and industry-academia linkages. The society including parents and peers must also gradually adopt a new aspirational goal, and reward and value system which will encourage the youth to venture into unchartered and challenging paths instead of pursuing only the regular or permanent jobs in proven sectors.

Thus, education must be designed and implemented to empower the youth through proper training, skilling, and character building. Employability and career opportunity, will automatically follow not necessarily only through conventionally chartered path but by inculcating and promoting the spirit and culture of innovation, entrepreneurship, and professional excellence in a conducive environment of fairness, meritocracy, global competitiveness, and humanism.

INITIATIVES

- i. UGC Guidelines for Internship/ Apprenticeship embedded Degree Programme
- ii. Industry-Academia Linkage: curriculum development internships, live projects
- iii. Introduction of vocational courses as part of general stream education through revision of CBCS
- iv. Creating Network of Institutions offering Skill Courses through Hub & Spoke Model
- v. Single Unified National Online Platform for Internship in Technical Institutions (50,000 industries registered on portal & offering internships) about 1 crore opportunities
- vi. AICTE's initiatives for imparting Skills and enhancement of Employability in Technical Education. (PMKVY-TI, KARMA, NEEM, SVP, Vocational Education, B. Voc/ D. Voc) - Approx. 1 lakh students were trained under the scheme in AY 20-21.



Chapter 10

Internationalization of Higher Education

- Dr. Vidya Yeravdekar

Pro-Chancellor

Symbiosis International University

In the present globalized world, the phenomenon of internationalization of higher education has emerged as the key transformative engine in higher education. Accordingly, internationalization received its due importance in the Government's historic transformational project, the National Education Policy, 2020 (NEP-2020). The policy points to various initiatives to help attract international students to study in India and provide greater mobility to students in India who may wish to visit institutions abroad. The process of Internationalization has evolved into a critical component of strategic planning, driven by a dynamic mix of political, economic, socio-cultural, and intellectual rationales and stakeholders. It is noteworthy that India has the world's largest higher education system (HES), with over 1,000 universities and 40,000 colleges, nationwide, however, it ranks third in terms of size and variety. Notwithstanding, its participation in the worldwide education system has been abysmally below its full potential. Despite being the world's second-most populous country with 1.39 billion inhabitants, the percentage of foreign students entering for higher education remains dismally low. According to the AISHE report of 2019-20, only 49,348 international students out of a total of 38.5 million were enrolled in Indian higher education institutions (HEIs).

Of the 49,348 international students enrolled in 2019-20 in India, the vast majority were from the Global South, more precisely, the Asian and African countries. Internationalization initiatives in India contribute enormously to capacity building in the neighbouring regions in Asia and Africa by enhancing the human capital base and promoting knowledge economy. This benefits our cause on two counts: revenue generation for institutions and, more importantly, contribution to India's soft power.



India's ancient heritage and the presence of Indian Diaspora in neighbouring regions go a long way in consolidating the country's headship position as host destination. The increasing internationalization of Indian higher education relates positively with the requirement for career-preparedness and global competencies in the Global South.

The Government aims to host as many as 500,000 international students by 2024 by investing in a variety of projects such as the "Study in India" programme, scholarships, research collaborations, among others. Notable recent examples of initiatives in this regard include the Scheme for the Promotion of Academic and Research Collaboration (SPARC) in 2018, Global Initiative for Academic Networks (GIAN), Indo-Africa Virtual University (IKAVU) in collaboration with Indira Gandhi National Open University (IGNOU), and the Pan African e-Network Project for e-vidyabharati and e-arogyabharati.

The NEP-2020 intends on establishing a policy framework for its internationalization, which will go a long way in improving not just the quality of higher education in India, but also its reach and competitiveness worldwide. India aspires to be the only preferred viable destination, throughout the world for higher education, for providing top-class education at a fraction of the cost that one is expected to spend in the industrialized countries.

The NEP-2020 has set the scene for India to reclaim its rightful place in the global arena. Fostering a global mindset for our institutions and transforming our students into "global citizens" is one of the most important qualitative improvements. In an ever-changing world, such as ours, global knowledge and connection gained via internationalization of higher education may help shape future generations of learners. This is the first time in India's educational history that the UGC and the government have taken the unprecedented step of integrating India's HES with worldwide education and making diligent efforts to make it world class by developing implementation strategies and rules.

The UGC reacted swiftly immediately after the policy was unveiled, putting in place a legal framework for internationalization in far less time than expected. In what is being seen as a positive step towards the internationalization of higher education, UGC has approved regulations that will allow Indian HEIs to provide joint, dual, or



twinning programmes in conjunction with international educational institutions. Such unparalleled international cooperation will undoubtedly be a watershed moment in the internationalization of Indian education.

The move will help Indian universities become more global, boost multidisciplinary education, provide students with a cross-cultural experience, and maybe bring in foreign exchange.

The conjoint efforts of both the Government and the UGC have opened doors for top 100 universities from across the globe to be encouraged to establish their campuses in India, whilst also top-tier Indian schools will be pushed to internationalize and extend their operations in foreign countries.

In a commendable initiative, the NEP-2020, expressly upheld Internationalization at Home (IaH) as a well-suited approach to internationalization for the Indian HES. This is a true paradigm shift that

aims to usher in a more global, cosmopolitan, and inter-cultural perspective for the entire student cohort by integrating comprehensive elements of internationalization into formal and informal teaching learning processes.

INITIATIVES

- i. UGC Regulations for Academic Collaboration between Indian and foreign HEIs to offer Joint Degree, Dual Degree and Twinning Programme
- ii. UGC Guidelines for Internationalisation of Higher Education
- iii. International Collaboration - International Hackathons and Research Collaboration in high tech areas like semi-conductor with Taiwan / USA.
- iv. Framework for Global Citizenship Education (GCED)
- v. Regulations to enable IOEs to open offshore campuses, UGC has amended the UGC (Institution of Eminence Deemed to be Universities) Regulations on 01.01.2021 - for Globalization of Education.
- vi. Office for International Affairs at HEIs as one stop centre for facilitating foreign students and promoting internationalization
- vii. Alumni Connect to engage with foreign alumni of Indian origin living abroad and foreign alumni to promote Indian HEIs abroad.
- viii. Innovation Ranking of Higher Educational Institutions in India - 3550 HEIs have registered and 1438 HEI are participating in ARIIA 2021 of AICTE.



Concluding Observations

As the Indian HES aims to achieve greater global competitiveness, internationalization strategies assume centre-stage in public policy. It is imperative to examine national and institutional agendas related to internationalization and assess, which approaches serve our realities and goals the most effectively.

Student mobility has been the mainstay of internationalization in India (and elsewhere). The economic rationale has undoubtedly mediated cross-border student mobility as the harbinger of internationalization in the West. However, this vehicle has some limitations for the Indian HES, and must be complemented with more promising, emergent approaches. Internationalization is neither a one-size-fits-all strategy nor is it an isolated approach. It must be viewed in the context of other socio-economic realities that affect the HES in general. Growing inter-regional dialogue and cooperation in the Global South has demonstrated the need to revise and contextualize the traditional prototype of internationalization by adding policies and practices that integrate the “global with the local”.

The provisions introduced by the UGC following NEP-2020 is surely an unprecedented step ahead in the history of education systems in India. The government’s goal of promoting world-class education in India through reforms in the NEP-2020 would certainly foster research and increase the Gross Enrolment Ratio (GER) in India’s academic ecosystem.



Chapter 11

NEP-2020: Best Practices for Augmenting Academics

- Prof. Alok Rai,
Vice Chancellor,
University of Lucknow

The Hon'ble Prime Minister Shri Narendra Modi gave a unique interpretation of the mantra of the "5 Cs"—critical thinking, creativity, collaboration, curiosity, and communication. Students need to adopt these skills to be capable of contributing more lucratively and professionally. The National Education Policy 2020 (NEP-2020) has heralded the beginning of a new era and has provided a new direction in the field of education. The NEP-2020 is not only laying the foundation for the future of our country but is also serving as a transformational change in our education system.

Academics is the very purpose of an education institution therefore the excellence of academics is the key for sustained success of any policy initiative. Flexibility, content modernization, application orientation, and research rejuvenation will propel the Indian higher educational institutions (HEIs) to making an international impact. NEP-2020 has suggested ways and means for ensuring the excellence of both students and institutions. The policy in clause 11.10 suggests the infusion of a choice-based credit system with a credit transfer scheme, credited and non-credited value-added course, internship and dissertation across programmes and disciplines with flexible entry and exit in curriculum formation.

The NEP-2020 came into force as a "Vision to Action" with students being the focal point. The policy emphasizes on the holistic development of the students, that is, it not only aims at improving their intellectual quotient, but also increasing the spiritual and emotional quotient. Furthermore, since employability is perceived as a big issue in many study reports, the development of students from the perspective



of their contribution and career sustainability is imperative. Therefore, mentoring students with the aim of partnering is important.

University of Lucknow: The University of Lucknow was the first university to implement the Nep-2020 policy in its entirety from the academic session of 2020-21 in its PG programmes making provision for all the suggestions; and in its UG and Ph.D. programmes from the academic year 2021-22.

At this university, schemes like Student OPD (Our Pupil's Day) and TREE (Teaching Reaching, Emboldening and Evolving) have been emphasizing mentoring wherein it is not just the responsibility of the teachers to groom their students but also of the seniors and alumni who play a pivotal role in the professional, intellectual, and social lives of students. The emotional and spiritual well-being of the students is also important and needs attention. The University has established on the campus a Happy Thinking Lab with facilities for psychological counselling, meditation with trained experts, and stress management initiatives through sophisticated instruments to ensure the enhancement and strengthening of the quality of life of the students. During the political crisis in Afghanistan in 2021, the Happy Thinking Lab and its facilities came to

INITIATIVES

- i. Online Learning Management System
- ii. Smartphones/tablets to needy students
- iii. Free access to academic e-content
- iv. Engineering Programme in Indian Languages
- v. Translation Automation AI Tools
- vi. Translation of MOOCs in Indian Languages
- vii. Bilingual text books
- viii. Cluster Universities for Multidisciplinarity and Resource Sharing
- ix. Multi-institutional and multi-disciplinary projects and programmes
- x. 4-year degree programmes
- xi. Student support centre for counselling and mentoring
- xii. Supernumerary seats for female students in STEM subjects
- xiii. Scholarships, Freeships, Fee reimbursement and logistic support to students from SEDGs
- xiv. Low interest/simple interest/interest free loan from Bank and CSR initiatives
- xv. Development of content and teaching in local languages/dialects
- xvi. Accessibility support for education to Divyangjans – Sign Language, Hearing Aids



the rescue for mental strengthening and emotional well-being.

As pointed out in clause 12.12 of the NEP-2020, the financial issues of students from low-income families also need to be taken care of. Keeping this in mind and trying to uplift students in need of such assistance, the University launched the “VC Care Fund”, an initiative to provide financial support to the students, to the extent of Rs 50,000, by mustering resources from society. On the first day of the launch of this scheme, as many as 30 people donated Rs 3.85 lakhs to the cause.

During the COVID-19 pandemic, 67 students who lost their parents were adopted by the teachers, officials, and alumni of the University to meet the financial needs pertaining to their academics.

Clause 12.9 of NEP 2020 emphasizes students’ engagement in institutional governance, which is imperative for sustainability of the system. Students should be included in all institutional work committees, so that they do not merely learn aspects of governance but also appreciate the boundaries of institutional functioning. The ‘Karmayogi’ is an earn-while-learn scheme that facilitates and encourages internships, part-time jobs, and participation in research projects as part of students’ academic curriculum. This not only helps them to partially support their expenses but also teaches students to respect and appreciate the dignity of labour, sharpen their skills, and channelize their energy in a positive and fruitful direction.

NEP-2020 focuses on the digital transformation that is pervading the field of education, and it envisions that universities will adopt digitalization across the board. With the proliferation of technology in the educational system, students will be able to join and learn 24x7 from anywhere in the world. The policy looks forward to fulfilling aspirations and opportunities of a new India for both the teachers and

- xvii. Introduction of IKS in the curriculum/ Projects/exhibitions/ graphical illustrations/ Talent Search Exam/ Olympiad on IKS
- xviii. Incentive/Funding support for IPR and patenting
- xix. Establishment of Skill University
- xx. Rozgar Mela for Campus Placement.
- xxi. HEIs partner with MSME for apprenticeship/internship
- xxii. Industry experts on Board of Studies in HEIs
- xxiii. Connecting with Alumni for engagement with Industry – Endowment, Internship, Placement and Entrepreneurships



learners. The goal is to build a strong, inclusive, cohesive, and productive education system with the NEP-2020 at its forefront. HEIs need to be geared to cultivate 21st-century skills among students, including critical thinking, problem-solving, creativity, and most importantly, digital literacy, to bridge the gap in education through technology and digitization. The concept of a digital university and digital teachers will on the one hand uplift the existing educational system and on the other hand will lower the cost of education in the long run. Developing Intellectual Property Rights (IPR)-protected products such as “Strategic Learning Application for Transformative Education (SLATE)” a Learning Management System, and an examination portal EASE (Electronic Access to the Services of Examination), Mobile Application by the University of Lucknow are some practices that can help realize the Hon’ble Prime Minister’s vision to leverage technology in furtherance of a congenial and communicative ecosystem developed through co-creation.

NEP-2020 keeps the students or the learners at the core through academic excellence for their holistic development. This ensures that HEIs are creative and innovative and are ready to take the initiatives for the greater good of the academics, students, and society.



