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on

IMPLEMENTATION STRATEGIES FOR NATIONAL EDUCATION POLICY--2020

Reimagining Teacher Education, Vocational Education and Professional Education

on the occasion of

AIU WEST ZONE VICE CHANCELLORS' MEET–2021

hosted by

JAIPUR NATIONAL UNIVERSITY, JAIPUR, RAJASTHAN

on

January 28-29, 2021

#Let'sBeatCoronaTogether

THEME FOR AIU ZONAL VICE CHANCELLORS' MEET—2020-21

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West Zone (28-29 January, 2021)	Jaipur National University, Jaipur-302017 (Rajasthan)	**Dr. Suren Shukla** Head, Centre of Excellence E-mail: *suren.shukla@jnujaipur.ac.in* Mobile: 8306100438; 7838000437	Implementation Strategy for NEP 2020:**Reimagining Teacher Education, Vocational Education and Professional Education**	**Mr. Vijendra Kumar** Meeting Division Association of Indian Universities New Delhi-110002 E-mail: *meetings@aiu.ac.in* Mobile: 07042049614
Central Zone (8-9 February, 2021)	Sri Sri University, Cuttack-754006 (Odisha)	**Ms. Mani Goswami** E-mail: *nodalofficerssu@srisriuniversity.edu.in* Mobile: 9811569182	Implementation Strategy for NEP 2020: **Promoting Quality, Research and Internationalization in Higher Education**	
North Zone (15-16 February, 2021)	Guru Govind Singh Indraprastha University, New Delhi- 110078	**Prof. Pravin Chandra** Dean, University School of Information, Communication & Technology E-mail:*-pchandra@ipu.ac.in, chandra.pravin@gmail.com* Mobile: 9910680510, 9999790956	Implementation Strategy for NEP 2020: **Holistic and Multidisciplinary Education with Technology Integration**	**Academic Nodal Officer Dr. S Rama Devi Pani** Editor, University News Association of Indian Universities New Delhi-110002 E-mail*: rama.pani2013@gmail.com* Mobile: 09582573719
South Zone (24-25 February, 2021)	GITAM (Deemed to be University), Visakhapatnam-530045 (Andhra Pradesh)	**Prof. Narendra** E-mail: *nkaranam@gitam.edu; conferences@gitam.edu;* Mobile: 9908035979	Implementation Strategy for NEP 2020: **Governance Reforms and Financing of Higher Education**	

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Jaipur National University, Jaipur: A Profile

Jaipur National University, Jaipur is hosting the West Zone Vice Chancellors' Meet—2020-21 of the Association of Indian Universities (AIU), New Delhi on January 28-29, 2021.

Jaipur National University (JNU), Jaipur, a self-financed University, sponsored by Mahima Shiksha Samiti, came into existence on October 22, 2007. In 2008, after a thorough inspection by an expert panel of UGC members, the University was accorded approval under Section 2(f). The University is the 1st Private University of Rajasthan to be accredited by the National Assessment and Accreditation Council (NAAC), based on a very comprehensive evaluation and accreditation only after seven years of its establishment.

The University Campus is aesthetically designed covering an area of more than 120 acres. With the Aravali Hills on one side and the sprawling green fields on the other, Jaipur National University presents a perfect panorama of the vision of a University as given by Gurudev Tagore.

The regular monitoring and security services ensure peaceful and healthy environment on the four campuses of the University conducive to creative learning. The gym and yoga facilities in the campus take care of the health of students.

To encourage the meritorious students, JNU offers Merit Scholarships based on the past academic record in Board Examination or Graduation Examination to attract talented students in various programmes on offer in JNU. Keeping in view the philanthropic orientation of the Sponsoring Body and the Policies of the State, the University is fulfilling its social responsibility by awarding scholarships and free-ships to both the meritorious and the deserving needy. The University is committed to provide quality education for the overall development of the students, thereby contributing to the progress of the State and Society at large.

With more than 7000 students and around 600 faculty members, the University is offering a number of Undergraduate, Postgraduate and Doctoral degree Programmes in different streams– Engineering, Pharmacy, Life and Basic Sciences, Business and Management, Agriculture, Education, Law, Mass Media, Hotel Management, Computer and Systems Sciences, Languages & Literature, Social Sciences, Nursing, Medical, Allied Health Sciences and Para-Medical Courses. All the technical and professional programmes are approved by various regulatory bodies, such as All India Council for Technical Education (AICTE), National Council for Teacher Education (NCTE), Bar Council of India (BCI), Indian Nursing Council (INC), Pharmacy Council of India (PCI), Medical Council of India (MCI).

Many courses have been re-designed, re-structured in tune with the emerging global economy and various job avenues. New programmes have been started to make them relevant to the changing dynamics of the global society The main focus is on empowering the students with the necessary skills and knowledge.

Some of these new programmes are: B.Tech. Biomedical Engineering, Chemical Engineering with specialization in Petro-Chemical Engineering, Computer Science (Hons.) in Big Data, Data Analytics, A1, Machine Learning and Cyber Security, MBA Hospital & Healthcare Management (HHM), B.Sc. Hospitality Management & Hotel Administration, Pharm. D., B.Sc. Clinical Dietetics and Forensic Science, Diploma in Medical Sterilization& Hospital Logistics, Diploma in Dialysis Technician, Diploma in Critical Care Medicine, Diploma in "Geriatric Medicine, Diploma in Maternal & Child Health, Dermatology (incl. Cosmetic Dermatology) PG Diploma in Broadcast Journalism, PG Diploma in Advertising & PR.

Because of its impeccable academic credentials and credibility, the University is becoming the most sought after educational Institution for higher and technical education. It has set benchmark in every sphere of learning. In its thirteen years of immaculate & creditable journey, JNU, Jaipur has grown into a multi-faculty and multi-disciplinary University and continues its march towards newer heights of excellence. The University believes in holistic grooming of students and teachers with a view to making them effective professionals. The University lays equal emphasis on regular seminars, symposia, workshops, sports, cultural activities and extra-curricular activities, enabling the students to enhance their personality and progress laterally.

In JNU we develop the concept of student care and welfare as the regular function of the University.

We provide individual attention and counseling to the students for every situation. Here, we nurture a sense of connection for the personal growth, career development and academic information for transforming them for employment eventually. The University's focus is not just confined to classroom teaching, but we impress upon the students to showcase their skills and utilize their talents for personality development which is equally important.

Research and Development and Incubation Centre

To strengthen the interface between Research and Development establishments and Industry and to accelerate the commercialization of products/ processes successful at laboratory stage, a fully furnished Research & Development and Incubation Laboratory has been set up with the latest technology and instruments in the university. The purpose of the R&D and Incubation Centre is to develop new or improved product resulting in prototype development and ending with demonstration in commercial environment. It will also give opportunities to the budding and aspiring entrepreneurs for beginning their startups.

Libraries

The libraries at the three campuses are the lifeline of the University and are open for twelve hours a day. To promote excellence in research and academic delivery, the University has subscribed to the following e-journals:

- DelNet.nic.in
- Manupatra – Pioneers in Online Legal Research
- Benthman Pharmacy Collection
- Elsevier Science Direct (Engineering and Technology, Social Sciences and Humanities, and Life Sciences and Health)

Collaborations

The University offers a number of collaborative academic programmes through Memorandum of Understanding with academic and research Institutes and Universities of national and international repute.

As a result of these collaborative programmes, students and teachers have access to both national and global institutions, which help them in broadening their intellectual horizons and learning about the changing trends in all spheres of human activity.

Tenth Convocation

The 10th Convocation Ceremony for the 2019 Batch pass-out students was organized on Saturday 8th February, 2020. A total of 1950 degrees were awarded in various disciplines which included 75 Ph.D. degrees and 55 gold medals to the toppers. The event was graced with the presence of our eminent guests like Dr. Ramesh Pokhriyal 'Nishank', Hon'ble Union Minister of Human Resource Development, the present Ministry of Education, Government of India; Shri Bhanwar Singh Bhati, Hon'ble Minister of Higher Education, Government of Rajasthan; and Shri Ram Charan Bohra, Hon'ble MP (Jaipur City).

Annual Fest - Technorazz

The University organizes a Technical and Cultural Fest Technorazz annually. Around 10,000 students from nearly 100 institutions from all over India participate in the event every year. Technorazz provides the much-needed exposure and platform for invigorating exchange of ideas and information to the students. Technorazz transforms the students to become strong competitors, capable of coping up with the challenges of the modern techno-driven economy. Technorazz is a platform of the youth, by the youth, and for the youth, and its main objective is to inculcate a sense of duty, responsibility and belongingness among the students and to develop in them an attitude to take competitions in life in a positive and healthy way. The event features technical as well as cultural programmes. Technorazz has regularly been graced by celebrities like the Indian Idol-Season-4 Fame-Parashar Joshi, and "Rock On" Fame Rock Star Ms. Abhinanda Sarkar of MTV.

Many other cultural and sports events are organized in the university to inculcate a spirit of sportsmanship in the students. Some of them are:

- Inter-School Sports Meet
- SPIC MACAY
- Photorazz
- Faculty Fiesta
- Jaipur National University Marathon
- International Women's Day

Hostel Accommodation

For stay of outstation students, JNU has excellent hostel facilities for both girls and boys that provide "A home away from home". Nearly 3000 students live in the University hostels. The girl's hostel is located on the SADTM campus and the boys' hostels are located on the SIILAS campus as well as JNU main campus. The hostels are well-equipped with air-cooling systems and excellent mess facilities. Also, cafeterias, stationery shops and ATMs are there on all the campuses. There are two International hostels with

an accommodation for nearly 100 NRI students on the SADTM campus as well as JNU main campus.

Accommodation facility is also available in the University Guest Houses for guests and parents.

Facilities provided in the hostels are:

- Nutritious Food
- Pure Drinking Water
- 24 hour Security
- Telephone
- Wi-Fi

JNU Hospital and Medical College

JNU Hospital & Medical College is also a part of the Jaipur National University. The Medical College was established with the mission to create, uphold and develop an ideal academic environment for undergraduate and postgraduate quality medical education and research, and received the MCI permission for 1st batch in 2016-17.

Located amidst salubrious green surroundings, the JNU Hospital boasts of world class infrastructure, friendly environment, cutting edge technology, highly experienced and qualified doctors and skilled paramedical staff who work with the motto "care with compassion".

The Hospital is committed to build on the core principles of quality, safety and clinical excellence with the promise of bringing quality healthcare at cost-effective prices for people of India. Here at JNUIMSRC, every effort is made to ensure that the healthcare system and those working within it are devoted to exemplary work ethics and the best interest of the patients.

There are multispecialty departments of General Medicine, General Surgery, Obstetrics and Gynecology and Pediatrics and allied departments like Skin and VD, Psychiatry, Respiratory medicine, Orthopedics, ENT, Ophthalmology and Anesthesia. Most modern critical care units, advanced Cardiac Cath Lab and Cancer care unit are also there. The present capacity is of 810 beds, which will subsequently be increased to 1100 beds. Other services include Casualty and Emergency services, 24x7 Central labs, Blood Bank, Radiology equipped with digital X-Ray, Ultra Sonography and Multi-slicer CT Scan machines and MRI.

To fulfill the commitment of providing continuing education for our faculty and staff members, physicians and students to ensure best possible care of patients, the hospital has hosted various events and like International 3D Neuro Anatomy workshop, Advanced Laparoscopic and Bariatric Surgery—A Paradigm Shift, an initiative to impart first responder training, an endoscopic workshop on Microanatomy, Physician workshop on pain education and many more were organised.

Salient Features of the University

Salient Features of the University are:

- Capstone Design Student Exchange Program with Myongji University, South Korea-140+ students benefitted over last 5 years.
- The Incubation Cell that provides support for business plan assistance, product prototyping, seed funding and venture capital events.
- Strong Industry interface and exclusive industry exposure.
- Educational partnership with IBM, Samatrix, Cyber Cure Technologies, Oracle, Red Hat in the field of cloud computing, IoT, Big data, Artificial intelligence, Cyber Security SQL and many more.
- Several community oriented programs for training the students to help them to become good samaritans.
- The students are involved in various innovative projects and they are developing these projects in the incubation centre of the university with the help of mentors from various industries.
- The students of the university have participated internationally and they have earned unique distinction at the international level.
- Choice-based system for students to opt subjects from different vocational streams so that they can have strong vocational background.
- Greater involvement of industry experts and alumni in the university activities.

New Initiatives

Several new initiatives that have been taken recently are:

- Introducing various skill-oriented programmes.
- Making industry-University interface more robust.
- Promoting inter-disciplinary research.
- Industrial mentor-mentee programme
- Appointing corporate guest lecturers in various programmes.
- Identifying the interest areas, skills etc. of students under career development and Progression Programme.
- Working on personality grooming of students right from the day of admission and initiating direct linkage with corporate. ❑

Measures for Implementing Teacher Education Policy as Envisaged by National Education Policy—2020

Benudhar Chinara*

National Education Policy 2020 (Sub-section 15.4) requiring multidisciplinary inputs and education in high-quality content as well as pedagogy acknowledges teaching as the mother of all professions. Devoting entirely one chapter, i.e. Chapter-15 is a testimony to it. The current teacher education programmes, such as Diploma in Elementary Education, Bachelor of Elementary Education, B.Ed., M.Ed. B.P.Ed., M.P.Ed., integrated B.Ed., and integrated M.Ed. are running either in the Departments of Education at universities, Regional Institutes of Education, Colleges of Teacher Education or Institute of Advanced Study in Education affiliated to general universities or teacher education universities. The faculty members employed for these programmes are mostly with composite essential qualification: M.A. / M.Sc. / M.Com. with M.Ed.; M.A./ M.Sc./ M.Com with B.Ed.; M.A. in Education with B.Ed. or M.Ed.; even with only M.A. in Education, and possibly even with some different combinations. These variations are the outcomes of the norms and standards of teacher education programmes prescribed by the National Council for Teacher Education (NCTE) from time to time since its establishment by the Act of Parliament in 1993. In the process one can witness that candidates without any specialization in school subject also become faculty in teacher preparation programmes. Going a step further time has witnessed and even is encountering the dilemma weather B.Ed. (i.e. Bachelor of Education) is same as or equivalent to B.A. (Honours/ Major) in Education (i.e. Bachelor of Arts in Education); and M.Ed. (i.e. Master of Education) is same as or equivalent to M.A. in Education (i.e. Master of Arts in Education). All that has happened perhaps may not be due to the professional prerequisites and requirements of the teaching profession but rather because of personal influence and interest among the persons involved in preparing such norms and standards.

With the backdrop of the aforesaid scenario along with some other reflections as observed by Chinara (2019) and the policy provisions of teacher education envisaged by National Education Policy 2020, the paper attempts to delineate some context specific and generic measures of policy implementation as stated in the following pages.

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Context Specific Measures of Policy Implementation

Moving Teacher Education Institutions into Multidisciplinary Colleges and Universities

The NEP 2020 (Sub-section 15.5) enunciates that "... 4-year integrated B.Ed. will be a dual-major holistic Bachelor's degree, in education as well as a specialized subject (such as a language, history, music, mathematics, computer science, chemistry, economics, art, physical education etc.)". With respect to dual degree, the first one should not be termed as 'education' rather 'teacher education'. And the second one, i.e. specialized subject has not been grouped under the broad discipline questioning the basic idea of multidisciplinary nature of teacher education as envisaged by the policy document. Thus, 4-year integrated B.Ed. should be clearly stated as a 'dual-professional-liberal Bachelor's degree', i.e. one being in 'teacher education' and the other being in any one 'specialized school subject' under a broad academic/liberal discipline such as:

- Science education (Chemistry, Physics, Life Science, Earth Science, Computer Science, etc.)
- Mathematics education
- Social Science education (History, Geography, Economics, etc.)
- Language education (any Modern Indian languages, area specific tribal language, English, etc.)
- Any other broad liberal disciplines having relevance to school education

The policy (Sub-section 15.5) too pronounces that "teacher education will include grounding in sociology, history, science, psychology, early childhood care and education, foundational literacy and numeracy, knowledge of India and its values/ethos/ art/traditions, and more." Does teacher education not require grounding in education as a discipline? This

aspect needs to be given a priority because of the reasons cited in a separate section of this paper.

The policy aims to make 'the 4-year integrated B.Ed. as the minimal degree qualification for school teachers, and allow to exist only educationally sound, multidisciplinary, and integrated teacher education programmes by 2030' (Sub-section 15.5). What will happen to the provisions for the 2-year B.Ed. for students who have already received a Bachelor's degree in a specialized subject and the 1-year B.Ed. for candidates who have received a 4-year undergraduate degree in a specialized subject? A time line should be given abolishing 2-year B.Ed. programme while stating clearly to run 1-year B.Ed. programme along with 4-year integrated B.Ed. programme in the multidisciplinary teacher education institutions.

When the existing stand-alone teacher education institutions/colleges/departments providing single programme of teacher education has miserably failed to provide quality teacher education, can those be made multidisciplinary by 2030 as envisaged by NEP 2020 (Sub-section 15.2) "to raise standards and restore integrity, credibility, efficacy, and high quality to the teacher education system"? Does it not look like the innovative idea of 'School Complexes' propounded by the Education Commission 1964-66 which has not yet been implemented even after a lapse of more than five decades and yet the National Education Policy 2020 (Section 7) recaps the same in the form School Complexes/Clusters. Thus, before making stand-alone teacher education institutions into multidisciplinary by 2030, there should be integration among the following four fundamental departments/ centres for the existing teacher education institutions:

- Academic and liberal stream oriented Department of Education providing Bachelor of Arts in Education [B.A. (Hons/Major) in Education], Master of Arts in Education (M.A. in Education), and Ph.D. in Education programmes
- Professional stream oriented Department of Physical Education providing B.P.Ed., M.P.Ed., and Ph.D. programmes
- Well being life oriented Centre/ Department of Yoga/ Yogic Art and Science providing certificate, diploma, and degree programmes
- Professional development oriented Human Resource Development Centre (HRDC) / Centre running Pandit Madan Mohan Malaviya National Mission on Teachers and Training (PMMMNMTT) Scheme.

Departments of Teacher Education in Universities

Earmarking a full chapter on teacher education, i.e. Chapter-15, the NEP 2020 accentuates to make teacher education as an integral part of the higher education system. It uses the phrases such as teacher education programmes, teacher preparation programmes, teaching profession, teacher education system and puts forward its logic (Sub-section 15.4) how to address teacher education programmes requiring multidisciplinary inputs, and education in high-quality content as well as pedagogy under the nomenclature of 'Department of Education' within composite multidisciplinary institutions. Why should the departments offering teacher preparation programmes be named as 'Departments of Education'? Why should not they be named as Departments / Centres of Teacher Education/ Teaching / Pedagogy within multidisciplinary higher education institutions?

It appears from this that there is no difference between 'education' and 'teacher education' for the policy makers. But in reality, 'education' cannot be equated with 'teacher education', the latter being one of the specialized areas of the former. Secondly, 'education' is a general/ liberal education stream/ academic stream like geography, sociology, physics, life science, Hindi, or Odiya. But, 'teacher education' is a professional stream like medicine, engineering, law, or agriculture. Both 'education' and 'teacher education' being different, it has become indispensable to consider the following course of action:

- Wherever Departments of Education at universities are offering exclusively teacher preparation programmes be renamed as Departments / Centres of Teacher Education/ Teaching / Pedagogy.
- Where ever Departments of Education at universities are offering both liberal education and professional teacher education programmes in those cases the later programmes should be shifted to Departments/ Centres of Teacher Education/ Teaching / Pedagogy by creating such departments/ centres.
- Universities which are interested to provide any professional teacher preparation programmes should establish Departments/ Centres of Teacher Education/ Teaching / Pedagogy.

It may also further be noted that the professional programmes such as medicine, engineering, law, or agriculture are offered by medical, engineering, law, or agriculture colleges/universities respectively. Then, why should not the departments/institutes/ colleges/ universities offering the teacher preparation programmes be named/renamed as Departments/ Institutes/Colleges/ Universities of Teacher Education/ Teaching/Pedagogy.

Liberal Education Faculty for Teacher Education Programmes

The NEP (Sub-section 15.8) emphasizes multidisciplinary teacher education programmes which need faculty with a wide range of expertise in the areas directly relevant to school education such as "psychology, child development, linguistics, sociology, philosophy, economics, and political science as well as from science education, mathematics education, social science education, and language education". The liberal discipline of education has not been included a part of it. Is a person with liberal education degrees of B.A. (Hons/Major) in Education (i.e. Bachelor of Arts in Education) and M.A. in Education (i.e. Master of Arts in Education) 'not fit at all' to work as a faculty along with others from the just said discipline?

It is a fact that teacher education is a specialized area of education discipline. The discipline of 'liberal education' develops deep and rigorous theoretical understanding of educational foundations, enquiry and perspectives and thus, lays the foundation of 'teacher education' system. Both liberal education and professional teacher education co-exist, supplement each other and are inter-dependant. When the foundations of education are blended with the components of pedagogy, internship, field-based engagement, and out-reach activities, it enriches the teaching profession. Thus, teacher education programmes must require some faculty positions exclusively with degrees of liberal education, B.A.(Hons/Major) and M.A. in Education.

Generic Measures of Policy Implementation

In addition to the above stated specific measures of policy implementation, the paper outlines the following generic measures of policy implementation with respect to teacher education:

- NEP 2020 has not suggested the structural pattern of teacher education system in tune with the proposed system of school education, i.e. 5 + 3 + 3 + 4 representing Foundational, Preparatory, Middle, and High/ Secondary Stage respectively. As a universal degree in teacher education does not fit-for-all the stages of school education. Thus, B.Ed. programme with specialization in secondary or elementary or nursery (pre-school) education as recommended by the National Advisory Committee in its report titled 'Learning without Burden' (1993:26) may be introduced.
- The teacher education in the policy deals mostly with B.Ed. programme and ignores the M.Ed. programme. Does only B.Ed. represent teacher preparation programmes? Teacher education system cannot survive if M.Ed. programme is not developed and enriched in tune with the teacher education programmes envisaged by the NEP 2020.
- There are teacher education universities (e.g. Tamil Nadu Teachers Education University, and The West Bengal University of Teachers' Training, Education Planning and Administration) to which colleges of teacher education are affiliated. As per NEP 2020 there is no place for college affiliating system in higher education. The policy speaks about the multidisciplinary colleges and universities and is silent about the existing teacher education universities. Thus, like the existing Cultural University, Petroleum University, or University Agriculture, provisions must be made to promote the existing or create new multidisciplinary teacher education universities.
- Pandit Madan Mohan Malaviya National Mission on Teachers and Training (PMMMNMTT) Scheme is presently running under the Schools of Education in different universities and institutions of higher education to provide in-service professional development courses for college and university teachers. Its activities must be outlined explicitly.
- The present status of 'games and sports' have been enhanced from an 'extra-curricular activity' through 'co-curricular area of study' to an 'academic stream'. Accordingly, adequate provisions should be made for the existing B.P.Ed., and M.P.Ed. Programmes under the Department of Physical Education.

- 'Yoga' has become a single regular exercise in day-to-day life of humans across major part of the world and prominently across India. Different institutions of learning have started offering formal certificate/ diploma/ degree in 'Yoga', or 'Yogic Art and Science'. Yoga has direct relevance to school education dealing with the young masses. Should it not be a part of teacher preparation programmes?

- To boost up teacher education/ teaching/ pedagogy as a professional stream of education, NET/ SET/ SLET in teacher education/ teaching/ pedagogy should be introduced if at all the provision of NET/ SET/ SLET continues to remain as an eligible criteria for a faculty position in any institution of higher education offering teacher education programmes.

- For a faculty in teacher education, Ph.D. with pedagogic-orientation should be another distinct part of teacher preparation programme. The faculty of teacher education requires to have Ph.D. not exclusively in subject specialization (e.g. Bengali, physics, economics, life science, mathematics, etc.) rather in pedagogy of those subject specialization (e.g. pedagogy of history, - Bengali, - physics, - economics, - life science or - mathematics, etc.). The research topic should include primarily the school subject specific pedagogy, internship, student engagement, teacher engagement, assessment tools and techniques for learning, development of curriculum materials, supplementary reading, student workbooks and teacher guide, improvement of classroom practices, student learning, and outreach social services.

Concluding Remarks

In order to improve and reach integrity and credibility and aim at to bring efficacy to the teacher education system, the professional stream of teacher education should offer teacher education programmes not in the Departments of Education rather in the Departments/ institutes/ colleges/ universities of teacher education/ teaching/ pedagogy. The existing B.Ed. and M.Ed. programme may accordingly be renamed as 'Bachelor of Teacher Education/ Teaching/ Pedagogy', and 'Master of Teacher Education/ Teaching/ Pedagogy. India is progressively progressing in the direction of providing education of 'comparable quality' as recommended by National Policy on Education 1986, through 'satisfactory quality' as recommended by the modified version of National Policy on Education in 1992 and 'reasonable quality' as contained in the RTE Act 2009 to 'high quality' as envisaged by NEP 2020 to all over the decades of its independence. National Education Policy perspective on today's teacher education must aim at transforming the choice of high quality to the reality with a due consideration to the suggested context specific and generic measures of teacher education policy implementation.

References

1. Chinara, B. B. (2019). Teacher education in the Draft National Education Policy -2019: Some Professional Concerns. University News, 57 (32), August 12-18, 7-11.

2. M.H.R.D. (2020). National Education Policy-2020 New Delhi: Ministry of Human Resource Development, Government of India.

3. M.H.R.D. (1993). Learning without Burden: Report of the National Advisory Committee, (1993). New Delhi: Department of Education, Ministry of Human Resource Development, Government of India. ❑

National Education Policy—2020 Generates Optimism among Teachers

M Sen Gupta*

The National Education Policy (NEP)–2020 visualizes an education system that ensures equitable access to the highest-quality education for all learners. The first education policy in India of the 21st century, strongly advocates the revision and revamping of all aspects of the education structure. It gives paramount importance to the teacher and the conditions within which the present day teacher operates. To be more precise the policy acknowledges the centrality of issues related to teachers namely, their recruitment, deployment, service environment, professional development, career management, career progression and their expected professional standards. It firmly believes that these issues have to be addressed to ensure wholehearted cooperation of teachers who alone can bring - in the desired changes. With this in view the policy has given much needed directions to raise the status of teachers including their dignity, respect and autonomy, their empowerment, recruitment and accountability.

It is generally observed that the teachers teach the way they have been taught in schools and colleges. Most of the pedagogical exhortations and verbalism in teacher education institutions largely fail to transform the teacher's approach and his/her teaching style. In the knowledge age we require a new generation of teachers who are capable of managing a dynamic learning environment and as motivating facilitators they should be capable of creating intellectually strong, creatively inclined and versatile workforce. This would mean a paradigm shift from the authoritarian teaching to joyful, active and participative teaching - learning process. If we want to continue our march towards enlightened and humane society, possibilities will have to be explored to prepare teachers who can befittingly face challenges posed by the forces of modernization, digitization, globalization and consequent rising aspirations of people. The teacher today must appreciate that every child has the potential to grow and develop. It is the teacher who has to nurture this potential and develop the child physically, intellectually and enable him/her to develop positive attitude, perseverance and emotional intelligence. This process will ensure optimum and holistic development in a balanced manner.

These emerging demands can be effectively met only if the teacher is safe, secure and has job satisfaction. The NEP–2020 has been candid in accepting the fact that today the status of teacher is at the lowest ebb. Urgent reforms need to be introduced at every front in teacher's life to ameliorate the dismal situation. Professional training of teachers as facilitators in the knowledge age requires to be more rigorous, diversified and of longer duration. Corruption, nepotism and favouritism prevailing in recruitment and deployment of teachers should be weeded out at the earliest. These and many other positive actions alone can help maintain the quality and motivation of teachers. The fact that Bihar Education Minister had to step down three days after taking oath due to corruption charges leveled against him in his tenure as Vice Chancellor of Agricultural University speaks volumes on the process of teacher's recruitment in various universities.

In the past, driven by petty politics and fortified by bureaucratic decision making, teachers as professionals find themselves thoroughly demoralized. Teachers within the school system find themselves divided. Permanent and dedicated teaching cadre, so essential for a robust and progressive system, is conspicuous by its absence. It has degenerated into a sub-standard system run by *Shiksha Karmi, Shiksha Mitra*, *Guruji*, part-time teacher, guest teacher, *ad hoc* teacher, contract teacher, para teacher and the like. Almost every institution or organization in the country both in Government and private sectors today has a huge backlog of teaching posts lying vacant due to one reason or the other. Even if driven by strong will recruitment process begins in a State, its implementation gets stalled by unnecessary litigation. In one of the universities the author himself observed almost every department being run by guest lecturers

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who were continuing for fifteen to twenty years in that capacity. It was said that the State Government did not allow recruitment of permanent faculty.

In view of the criticality of the problem and also because of the fact that over the years in spite of concern being expressed in academic circles the situation has hardly improved; it is heartening to note that the new policy has raised the issue seriously and has called for a fresh thinking. It has generated optimism and the country's education system is hopeful that the problems faced by the teachers at all levels will be re-visited without any pre-conceived notions.

The system badly requires a new generation of competent, committed and digital age teachers who are democratic and innovative in approach, professional in practice, humane in interpersonal relationships and have adequate digital literacy. It is only with such promising teachers in place, the commitment expressed in NEP–2020 that "The high respect for teachers and the high status of the teaching profession must be revived and restored for the very best to be inspired to enter the profession, for teachers to be well-motivated and empowered to innovate, and for education to therefore reach the heights and levels that are truly required to ensure the best possible future for our children and our nation" can be truly fulfilled.

The policy identifies yet another important issue when it says, "Schools in rural areas most of the time starve for good teachers." It has been observed that the teachers posted in rural areas do not attend the school daily and at times resort to many unfair means to prove their presence. Some legitimate reasons causing this situation in remote areas are - problem of transport, lack of suitable housing facility, poor roads and infrastructure in the village. The dismal picture of teacher absenteeism in rural areas is likely to improve if some incentives are given. With this hope the policy stipulates, "A key incentive for teaching in rural schools will be the provision of local housing near or on the school premises or increased housing allowances to help in procuring local housing in rural areas." The policy has for the first time taken a very positive view in this context when it declares, "A very first requirement in this direction will be to ensure decent and pleasant service conditions at schools. Adequate and safe infrastructure, including working toilets, clean drinking water, clean and attractive spaces conducive to learning, electricity, computing devices, and internet, library and sports and recreational resources will be important to provide to all schools in order to ensure that teachers and students including children of all genders and children with disabilities, receive a safe, non-violent, inclusive and effective learning environment and are comfortable and inspired to teach and learn in their schools."

It is hard to deny the fact that persons entering teaching profession are generally those who have exhausted all other preferred options and thus choose teacher training not by choice but by compulsion. Barring few late bloomers and some committed teachers, most of the existing teachers fall within average range. Fortunately the policy framers have touched the right nerve when the document states, "To ensure that truly excellent students enter the teaching profession - especially from rural areas - a large number of merit-based scholarships shall be instituted across the country for study at outstanding 4-year integrated B.Ed. programmes. In rural areas, special merit-based scholarships will be established that also include preferential employment in their local areas upon successful completion of their B.Ed. programmes. Such scholarships will provide local job opportunities to outstanding local students (especially female students), so that these students may serve as local-area role models and as highly-qualified teachers who speak the local language. Incentives will be provided for outstanding teachers to take teaching jobs in rural areas …"

Another laudable policy statement relates to the Teacher Eligibility Tests (TETs). These tests will be strengthened and suitably guided to recruit outstanding teachers. Further extension of TETs "to cover teachers across all stages (Foundational, Preparatory, Middle and Secondary) of school education is a welcome step. It is an irony that most of the time teachers are selected on the basis of marks obtained in qualifying examinations or competitive written examinations. Hardly any weightage or cognizance is given to passion and motivation for teaching which should in fact be one of the important criterions. It is praiseworthy that the policy raised its fingers on this hitherto neglected aspect and makes "a classroom demonstration or interview an integral part of teacher hiring at schools and school

complexes." This measure, if implemented in true spirit much of the corruption can be uprooted and competent and committed teachers will only get selected.

Other measures suggested by the policy are - ensuring an adequate number of teachers across subjects, promoting local knowledge and expertise, a comprehensive teacher-requirement planning exercise across India, giving autonomy to teachers in choosing finer aspects of pedagogy, giving teachers constant opportunities for self-improvement and recognizing outstanding teachers by promoting, giving salary raises and other incentives and setting 'National Professional Standards for Teachers (NPST)'.

Keeping in view the serious nature and total magnitude of the problem a multipronged strategy should be worked out at the central and State levels with the sole aim of creating a cadre of competent, committed and professional teachers both at school and higher education level. This task would involve:

i. Developing a comprehensive system of pre-service teacher education at different levels right from pre-school to higher education followed by in-service refresher courses.
ii. Replicating the prototype pre–service teacher education courses experimented upon and run by Regional Institutes of Education of NCERT for different durations and specializations ranging from 1 – 6 years.
iii. Establishing among these courses horizontal and vertical linkages for upward mobility both in content and pedagogy.
iv. Filling up of the vacant posts in schools and colleges by full time teachers in a transparent manner ensuring induction of best available talent.
v. Recognizing and nurturing talented teachers by offering monetary and other incentives.

The optimism generated amongst the teaching community by the policy directives needs to be sustained by quick and decisive steps so that the urge of the policy framers and the dreams of the teachers lead to a system in which teachers are once again trusted and revered so that they commit wholeheartedly to take the country to the status of a civilized developed nation. ❑

Association of Indian Universities Welcomes the Delegates to the West Zone Vice Chancellors' Meet—2020-21 Virtually Hosted by Jaipur National University, Jaipur

How National Education Policy—2020 Envisions Continuing Professional Development of Teachers?

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Quality education is a global demand today. And, the quality of teachers very much decides the quality of any education system. In any education system, teachers play the role of pivots upon which the entire system hangs (Omorghie, 2006 and Misra, 2015). Teachers directly influence the processes of the classroom and the students' learning (OECD, 2010). In raising students' achievement, teachers' expertise is one of the most significant factors. A report from NCTE emphasized teachers' competence, sensitivity, and motivation as the determinant factor for the quality and extent of learners' achievement. The report further declared teachers' academic and professional standards as the critical components of essential learning conditions for achieving the educational goals (NCTE, 2009). These observations suggest that well-prepared and highly qualified teachers are crucial to achieve high standards and ensure successful implementation of educational reforms (Hammond, 2000).

In a way, the quality and standard of education in a country depends on how it manages its teachers' quality improvement by initial preparation and ongoing professional development. Ongoing professional development is usually known as Continuing Professional Development (CPD). CPD is usually meant for the quality improvement of those who are already in the profession. CPD is a globally discussed issue and is among top educational policy priorities in many countries. Like other countries, previous Indian policy documents have also dealt with teachers' ongoing professional development and made different provisions and recommendations. But the majority of these policy documents remained stuck to the concept of in-service education of teachers (INSET). As a fact, INSET is the narrower vision of CPD as it could not cover the self-driven learning and self-initiation aspects of professional development.

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Surprisingly, before National Education Policy [NEP]–2020, only the National Curriculum Framework for Teacher Education [NCFTE] used the term CPD and provided some measures to promote it among teachers (NCFTE, 2009). In most education policy documents since independence, CPD was seen from INSET's lenses. The focus was mainly on providing ready-made learning opportunities for in-service teachers. These learning opportunities mainly consisted of training programmes, orientation courses, refresher courses, faculty development programmes, and workshops. The whole policy perspective about CPD of teachers in India till 2013 is aptly summarized by Bolitho and Padwad (2013),

Ongoing professional development, i.e. CPD, can be seen in a very restricted, narrow sense and there are limited opportunities and support for the CPD of serving teachers…Different agencies and stakeholders seem to hold different or narrow views of CPD. It is very common to see CPD equated with in-service training (INSET) programmes, which are normally one-off, isolated, short-term and infrequent training events (p.7).

The question among the teaching community is whether NEP 2020 will help empower the Indian education system to adopt the concept of CPD in its real sense and create a conducive environment and opportunities for teachers at different levels of education to embrace and practice it holistically and comprehensively. This discussion paper begins by highlighting the provisions made regarding teachers' CPD in earlier policy documents. Afterward, this paper focuses on how far NEP 2020 has moved regarding the CPD of teachers, what changes it suggests, and its specific recommendations about the CPD of teachers working at different education levels.

What is CPD, and Why is it Essential for Teachers?

CPD is a lifelong learning process that starts with ones' entry in the profession and continues throughout the career (Panda, 2001). Beginning with the initial preparation of a teacher it continues throughout his/

her career. It includes all those formal and informal learning experiences that a teacher gets from his/her pre-service education to retirement (Fullan, 2001). CPD is seen as a complex and comprehensive process of learning which encompasses all the activities required to sharpen teachers' skills and competencies and assists them by various means in developing a broader range of beliefs and attitudes in favor of effective teaching practices. Making a tri-polar development of the education system, CPD empowers the teachers, students, and the schools (Phillips, 1991). Reflecting on it, Padwad and Dixit (2011) commented, CPD is a planned, continuous and lifelong process whereby teachers try to develop their personal and professional qualities, and to improve their knowledge, skills and practice, leading to their empowerment, the improvement of their agency and the development of their organizations and their pupils (p. 10).

Thus, CPD is beneficial for the individual and the groups of teachers, both personally and professionally, and to improve the quality of the whole education system. CPD is comprehensive as it includes both "formal and informal provisions" of improvement for professionals (Joyce, Howey and Yarger, 1976, p. 6). It also includes "all natural learning experiences and those conscious and planned activities" which bring direct or indirect benefits to the individuals, schools and the education itself" (Day, 1999, p.4). Identifying the comprehensive nature of CPD, different scholars have defined CPD in their way. Padwad and Dixit (2013) perceived it as, "the process of teachers' development after joining the profession, a process of lifelong learning, both formal and informal, and involves both voluntary teacher initiatives and programmes externally planned and mandated by authorities" (p.13).

Similarly, highlighting its aspect of 'learning on the job' (Eraut, 1994), the Department for Education and Employment [DfEE] (2001) in its report ` learning and teaching: A strategy for professional development' stated that CPD consists of all those activities that, increase the skills, knowledge and understanding of teachers, and their effectiveness in schools and also promotes continuous reflection and re-examination of professional learning. This includes, but goes well beyond, training courses and a wide variety of other on and off-the-job activities (p. 71).

Based on the above arguments, the following key features can be drawn to make the concept of CPD more precise and clear:

- CPD aims to enhance the education system's quality by developing teachers' competencies, knowledge, understanding, and performance.
- CPD includes both individual and collaborative activities and experiences of learning.
- CPD is not restricted to one particular place, such as the classroom or the institutional setting. Instead, it may occur anywhere in the institution, at the training centre, on the internet, or even at home.
- CPD is a continuous and lifelong learning process and counts on formal and informal experiences and learning activities.
- CPD recognizes teachers' voluntary initiatives of learning with the externally planned professional development programmes.
- CPD is a holistic process that includes system-driven and teacher-driven activities rather than INSET, which is mainly offered in system-driven activities.
- CPD is utterly not dependent on the ready-made, one-size-fits-all training courses initiated by any authority or agency. Instead, in CPD, teachers are responsible for their professional learning and are expected to address their professional development needs by their initiatives.
- CPD is a career-long process of education, training, learning, and support activities in formal or informal working settings.
- CPD aims to promote educational professionals' learning and growth by enhancing their professional knowledge, skills, and values.

Considering the above-stated characteristics and potential benefits of CPD for teachers, it is critical to assess how CPD was perceived and promoted in India's policy documents from earlier times.

How CPD was Reflected in Earlier Education Policy Documents?

In independent India, different policy documents have focused on the professional development of teachers. Still, most of these policy documents have mainly talked about INSET activities in the name of teachers' professional development. Most

of them have never moved from the concept of in-service teacher education to CPD. The term CPD was merely used as an interchangeable term for INSET without emphasizing its real intent. A short analysis of recommendations made by some of the significant policy documents of education helps us to support this claim.

Secondary Education Commission (1952-53)

The Secondary Education Commission (GOI, 1952-53), also known as Mudaliar Commission, paid considerable attention to teachers' professional development. The Commission emphasized on it in the form of in-service training of teachers through refresher courses, short term courses in special subjects, particular training in workshops and professional conferences. Encompassing only secondary school teachers, the Commission shouldered the responsibility of in-service training on the teacher training colleges. The Commission also recommended for the establishment of extension services departments to assist these colleges with their structural arrangement for teachers' in-service education.

Kothari Commission (1966)

The next significant Indian policy document Kothari Commission (GOI, 1966), focused on in-service training programmes for teachers' professional learning. The Commission recommended that universities, training institutes, and teacher organizers should offer refresher courses, workshops, and seminars for teachers throughout the year. Although the main focus of the Commission was on the professional development of school teachers, it also considered teacher educators and school supervisors as resource persons. The Commission also suggested that at least two or three months of in-service training will be provided to every teacher once every five years.

To promote teachers' universal coverage for in-service training programs, the Commission suggested establishing 'school complexes' with a nodal school to arrange in-service training for teachers. The Commission also called for state governments' support to promote and supervise the in-service teacher education activities in their states. In a way, the Commission threw the ball of teachers' professional development in governments' frost.

Chattopadhyay Commission (1985)

One of the most significant but mainly unsung commissions on teacher education in independent India, the Chattopadhyay Commission also emphasized on the CPD of teachers. The Commission advocated strengthening INSET's status in the country and recommended that every teacher attend three weeks of in-service training once in a block of five years. Most importantly, it suggested that this training should be linked to their career promotion (GOI, 1985).

National Policy on Education [NPE] (1986)

NPE (1986), the first comprehensive Indian policy on education, emphasized that teacher education is a continuous process and in-service and pre-service education are its two inseparable components (MHRD, 1986). But, even this policy could not move from the conception of INSET to CPD. Although NPE 1986 made some vital recommendations for the in-service education of teachers in the country. By making a decisive intervention for establishing strong institutional networks, this policy called to create better opportunities for teachers and teacher educators' in-service education. These initiatives were supported further by the report of Acharya Ramamurti Review Committee (MHRD, 1990), and Plan of Action, 1992 (MHRD, 1992). The initiatives mainly included establishing District Institutes of Education and Training (DIETs, in each district), Colleges of Teacher Education (CTEs), and Institutes of Advanced Studies in Education (IASEs). These institutions were conceptualized for imparting in-service education not only to school teachers but also to teacher educators.

The NEP 1986 also recommended a comprehensive programme for teachers' professional development in the higher education sector. NEP's programme of action pointed to the crucial link between teacher motivation and the quality of education. It paved the way for establishing Academic Staff Colleges in universities across the country. The NEP also suggested organizing specially designed orientation programmes in pedagogy, conducting orientation and refresher courses for serving teachers in higher education, and encouraging teachers to participate in seminars, symposia, and workshops (MHRD, 1986; MHRD, 1992).

National Curriculum Framework (2005)

This Framework can be termed as the first educational policy document of India that disagreed with the prevalent notion that teachers' professional development can occur in fragmented training sessions. By declaring that it is a process of lifelong learning, Framework clearly stated that "In-service education cannot be an event but rather is a process, which includes knowledge development and changes in attitudes, skills, disposition and practice through interactions both in workshop settings and in the school" (NCERT, 2005, p. 112).

The Framework emphasized experiential learning for teachers to become active learners and learn by reflecting on their teaching practice. But unfortunately, despite having a changed and progressive ideology, the Framework gave more preference to in-service teacher education over CPD in its recommendations. It recommended that school clusters will shoulder the responsibility of providing in-service training to teachers. The Framework also recommended splitting the mandatory days of in-service teachers' training over the year to instantly apply what new they have learned in their teaching practice and pre-service training (NCERT, 2005).

National Curriculum Framework for Teacher Educators [NCFTE] (2009)

NCFTE (2009) may be termed as the first policy document that used the correct terminology for teachers' professional development, i.e., CPD. Interestingly, the Framework presented a very perplexing view of CPD. Like other policy documents, this document also interchangeably used the term CPD with in-service teacher education. However, many of the learning opportunities suggested by the Framework are much close to the concept of CPD. The Framework hoped that teachers would follow different routes and collaborate with others teachers for professional development. The Framework highlighted the teachers' autonomy in professional development and advised external authorities (government, teacher training institutions, universities, etc.) to support teachers in following the suggested paths.

Although, the Framework has hardly given any suggestion about how teachers can be motivated to be volunteers of lifelong learning to tread the path of CPD. In comparison, this is the first policy document in independent India that supported professional development for the entire community of teachers and other stakeholders (i.e., school teachers, higher education teachers, teacher educators, school heads, education supervisors, and library staff) (NCTE, 2009). The Frameworks also intended to provide CPD opportunities for teachers serving in both government and private sectors.

Justice J.S. Verma Commission (2012)

This Commission, set-up on the recommendations of Hon'ble Supreme Court, emphasized the development of a new policy framework with a National Action Plan for proper implementation of INSET (MHRD, 2012). But with this recommendation, CPD of teachers became a farfetched idea at policy fronts. Within just three years of NCFTE 2009, policymakers just reversed its bus of teachers' development from CPD to INSET.

In a nutshell, the above discussions on the significant policy documents with particular reference to the professional development of teachers provide ample grounds to argue that,

- Previous policies and policymakers have failed to establish a cohesive and complete mechanism to cater to teachers' professional development needs at different education levels.
- By and large, previous educational policies remained stuck to the philosophy and terminology of 'in-service education'.
- The educational world has moved from 'in-service' to 'CPD' and from 'CPD' to 'Continuing Lifelong Professional Learning' (CLPL), and in comparison, INSET still holds much importance in the Indian education system.

In light of these arguments, it will be quite interesting to learn how NEP 2020 envisions teachers' professional development.

How NEP—2020 Envisions CPD?

It is heartening to note that in the NEP 2020, a subsection titled 'continuous professional development' has been added under the section 'Teachers'. This insertion has two meanings. First, NEP recognizes the importance of CPD in the lives of teachers. Second, it accepts the globally accepted terminology 'CPD' and moved away from the age-old-notion of teachers 'in-service education', i.e., INSET. The NEP 2020 delves

upon various aspects of the CPD of teachers. Let's discuss all these aspects, one by one, for an in-depth understanding and reaching an inevitable conclusion.

Competencies to be Acquired through CPD

Today's teachers are expected to play many different roles rather than merely transmitting knowledge or information to the learners. They are supposed to contribute to the learners' all-round development and promote meaningful and joyful learning in the classrooms. They are also expected to mold learners as future-ready and productive citizens. To accomplish such significant tasks, teachers have to have various competencies and skillsets. Realizing this need, NEP 2020 proposes different CPD opportunities for teachers that covers, "…. the latest pedagogies regarding foundational literacy and numeracy, formative and adaptive assessment of learning outcomes, competency-based learning, and related pedagogies, such as experiential learning, arts-integrated, sports-integrated, and storytelling-based approaches, etc" (MHRD, 2020, p.22).

Opportunities for Engaging in CPD

The NEP 2020 assures that teachers at all levels of education will be in the ambit of CPD. To make this happen, NEP 2020 aims to make provisions for making CPD available to different teachers and noted, "Teachers will be given continuous opportunities for self-improvement and to learn the latest innovations and advances in their professions. These will be offered in multiple modes, including in the form of local, regional, state, national, and international workshops as well as online teacher development modules "(MHRD, 2020, p.22).

Although NEP 2020 remains silent on whether the benefit of CPD will be passed on to both public and private teachers or only teachers working in government institutions will be its prime beneficiary. Here, it is vital to note that existing CPD schemes, particularly in the schooling sector, mainly support the teachers working in government or government-aided institutions. The teachers of private institutions have to look and arrange CPD at their initiatives and expenses.

The policy also wishes that teachers must enhance their role and must act as a facilitator for learners. It is expected that teachers will facilitate students' active engagement with the content, with peers, and with the teacher as well. To realize this vision, the policy states "Teachers will undergo rigorous training in learner-centric pedagogy and on how to become high-quality online content creators themselves using online teaching platforms and tools" (p. 59).

NEP 2020 also envisions that online platforms will help teachers share ideas and best practices related to their professions. Regarding the broader usage of technology for CPD purposes, the policy suggests, "The use of technology platforms such as SWAYAM/DIKSHA for online training of teachers will be encouraged, so that standardized training programmes can be administered to large numbers of teachers within a short span of time" (MHRD, 2020, p.43).

The policy also states that higher education teachers will be provided with opportunities to get mentoring from expert and experienced teachers. This suggested initiative aims to help teachers discuss their professional concerns and get suitable answers from those who know the system from inside and experienced similar situations or problems. Mentioning this scheme, the policy highlights, "A National Mission for Mentoring shall be established, with a large pool of outstanding senior/retired faculty – including those with the ability to teach in Indian languages – who would be willing to provide short and long-term mentoring/professional support to university/college teachers" (MHRD, 2020, p.43).

Expectations from Teachers Regarding CPD

NEP 2020 expects that every teacher, whether it is working in school education or higher education, must engage in sufficient CPD activities. This intention may be in line with the provisions in some countries where participation in CPD activities of a particular period in a year is mandatory for every teacher. Making this intent more clear, NEP 2020 states "Each teacher will be expected to participate in at least 50 hours of CPD opportunities every year for their own professional development, driven by their own interests" (MHRD, 2020, p.22).

As another exciting note, NEP 2020 aims to bring school leaders or principals into the ambit of CPD. This move is guided by research evidence claiming that leadership acts as a decisive factor in enhancing the quality of teaching-learning. Counting on this observation, the NEP 2020 observes, "School Principals and school complex leaders….. will also

be expected to participate in 50 hours or more of CPD modules per year, covering leadership and management, as well as content and pedagogy with a focus on preparing and implementing pedagogical plans based on competency-based education" (MHRD, 2020, p.22).

NEP 2020 expects that school leaders regularly participate in leadership/management workshops and online development opportunities to continuously improve their leadership and management skills. In the policy, the other expectation from school leaders is to share their best educational leadership and managerial best practices with colleagues.

NEP 2020 also suggests that higher education teachers must also get involved with CPD activities like school teachers and leaders. NEP 2020 states that existing practices of CPD for higher education teachers (i.e., orientation programs, refresher courses), provisions (i.e., training through Human Resource Development Centers of different Universities), and opportunities (e.g., online platforms like SWAYAM) will continue. Claiming that such initiatives will be strengthened further, NEP 2020 declares, "In-service continuous professional development for college and university teachers will continue through the existing institutional arrangements and ongoing initiatives; these will be strengthened and substantially expanded to meet the needs of enriched teaching-learning processes for quality education." (MHRD, 2020, p.43).

Incentives for Engaging in CPD

The tragedy is that the Indian education system hardly differentiates between a good and not so good teacher. Those who excel in the profession and who lag-behind get the same salary, similar promotion benefits, and equal career enhancement opportunities. There is hardly any mechanism to motivate and incentivize those who are regularly engaged in CPD and doing outstanding work in their classrooms. It seems that NEP 2020 has taken note of this situation and would like to bring a change. As a measure in this effect, the policy suggests a two-tier process. First, it wants to come up with a set of professional standards for the teachers. Talking on this issue, the policy highlights, "A common guiding set of National Professional Standards for Teachers (NPST) will be developed by 2022.....The standards would cover expectations of the role of the teacher at different levels of expertise/ stage, and the competencies required for that stage. It will also comprise standards for performance appraisal, for each stage, that would be carried out on a periodic basis" (MHRD, 2020, pp. 22-23).

Thereafter, the policy suggests that those who will follow these standards, do justice to their profession, and be engaged with CPD regularly will be treated in a way different from others. Making this intent clear, the policy states, "The NPST will also inform the design of pre-service teacher education programmes. This could be then adopted by States and determine all aspects of teacher career management, including tenure, professional development efforts, salary increases, promotions, and other recognitions. Promotions and salary increases will not occur based on the length of tenure or seniority, but only on the basis of such appraisal" (MHRD, 2020, p.23).

Based on all these recommendations, it may be noted that NEP 2020 envisions CPD more holistically and comprehensively than previous policies. Unlike earlier policy documents, NEP 2020 moved away from the notion of INSET to CPD. This move is evident from two-fold suggestions proposed by the policy. As first, the policy suggests that teachers must come forward and take responsibility for their development. And second, the policy suggests that existing provisions and opportunities for teachers' CPD will be strengthened further. Besides, the policy also expects that every teacher, whether in schooling or higher education, will get engaged in CPD and benefit from it.

Conclusion

There is a famous saying that only a lit lamp can lighten another lamp. This saying exactly fits with the lives of teachers. Only those teachers who are committed, well versed in their subject, able to understand learners, and proficient in pedagogy can impart meaningful teaching. But this is easier said than done. Teachers have to keep learning throughout their lives to help learners in their all-round development. And engaging in CPD activities is the most accepted and practiced way to support teachers to remain professionally fit and motivated. Unfortunately, CPD has been perceived and practiced in a significantly narrower way so far in the higher and school education system in India. We can hope that the measures suggested in the NEP 2020 will be helpful to review the

existing CPD policies and practices. And as a follow-up, improved CPD opportunities will be available for teachers working in different educational sectors (i.e., school and higher education) and various types of institutions (i.e., government, government-aided, and self-financed).

References

1. Bolitho, R., and Padwad, A. (2013). *Continuing Professional Development: Lessons from India*. New Delhi, India: British Council.
2. Day, C. (1999). *Developing Teachers: The Challenges of Lifelong Learning.* London, England: Falmer Press.
3. Department for Education and Employment (2001). *Learning and Teaching: A Strategy for Professional Development*. London, England: Author.
4. Eraut, M. (1994). *Developing Professional Knowledge and Competence*. London, England: Falmer Press.
5. Fullan, M. (2001). *The New Meaning of Educational Change* (3rd ed.). New York: Teachers College Press.
6. Government of India (1952-53). *Report of the Secondary Education Commission*. New Delhi, India: Ministry of Education. Retrieved from *www.teindia.nic.in/Files/ Reports/CCR/ Secondary _Education_Commission_ Report.pdf*
7. Government of India (1966). *Report of the education commission (1964-66): Education and national development*. New Delhi, India: Ministry of Education. Retrieved from *File:///C:/Users/ Kapil/Downloads/ CCS270.pdf*
8. Government of India (1985). *The teacher and society*. New Delhi, India: Ministry of Education. Retrieved from *www.teindia.nic.in/Files/TE_Vikram/The_Teacher_and_ Society_Report_of_National_Commission_on_Teachers. pdf*
9. Hammond, L. (2000). *Teacher quality and student achievement: A Review of State Policy Evidence.* Retrieved from *http://epaa.asu.edu/epaa/v8n1/*
10. Joyce, B. R., Howey, K. R., and Yarger, S J (1976). *Issues to face. ISTE Report I*. Palo Alto, California, CA: Stanford Center for Research and Development in Teaching. Retrieved from *http://archive.org/details/ ERIC_ED129733*
11. MHRD. (1986). *Report of the National Policy on Education*. New Delhi, India: MHRD. Retrieved from *http://mhrd. gov.in/sites/upload_files/mhrd/files/upload_document/ npe.pdf*
12. MHRD. (1990). *Report of the committee for review of national policy on education 1986*. New Delhi, India: MHRD. Retrieved from *http://www.teindia.nic.in/files/ reports/ccr/ramamurti-committee-report.pdf*
13. MHRD. (1992). *National policy on education: Programme of action*. New Delhi, India: MHRD. Retrieved from *http:// mhrd.gov.in/sites/upload_files/mhrd/files/ document_ report/POA_1992.pdf*
14. MHRD. (2012). *Vision of Teacher Education in India: Quality and Regulatory Perspective*. New Delhi, India: MHRD
15. MHRD. (2020). *National Education Policy*. New Delhi: MHRD. Retired from *https://www.mhrd.gov.in*
16. Misra, P K (2015).Teacher education policies, practices, and reform in Scotland: implications in the Indian context. *Cogent Education*, *2*(1). Retrieved from *https://www. tandfonline.com/doi/full/10.1080/2331186X.2015.10660 89*
17. NCERT. (2005). *National curriculum framework*. New Delhi, India: NCERT. Retrieved from*http://www.ncert. nic.in/rightside/links/pdf/framework/english/nf2005.pdfm*
18. NCTE. (2009). *National Curriculum Framework for Teacher Education towards Preparing Professional and Humane Teacher*. New Delhi, India: NCTE. Retrieved from http:// *www.Ncte-indiaorg*
19. OECD. (2010). *PISA 2009 results: What Makes a School Successful? Resources, policies and practices (Volume IV).* OECD Publishing. Retrieved from *https://www.oecd. org/pisa/pisaproducts/48852721.pdf*
20. Omoreghie, N (2006). *Inadequacies in Teacher Education in Nigeria: The Way Out*. Benson Idahosa University, Benin, Nigeria: Arts and Education Publications. Retrieved from *http:/www.idahosauniversity.com/publications*
21. Padwad, A, and Dixit, K (2011). *Continuing Professional Development: An Annotated Bibliography.* New Delhi, India: British Council.
22. Padwad, A., and Dixit, K K (2013). Multiple Stakeholders Views of Continuing Professional Development. In R. Bolitho & A. Padwad (Eds.), *Continuing professional development lessons from India* (pp. 11-22). New Delhi, India: British Council.
23. Panda, P. (2001). In-service teacher education: Growth, development and practices. In G.L. Arora & P. Panda (Eds.), *Fifty years of teacher education in India: Post independence development* (pp. 105-134). New Delhi, India: NCERT.
24. Phillips, H. (1991). *Teachers' professional development*. Australia: Australian Print. ❑

NEP—2020 and Teaching-learning Philosophy: JKLU's Approach

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JK Lakshmipat University (JKLU) is supported by JK Organization (JKO), the 125-year-old leading industrial conglomerate of India, with globally reputed and trusted companies like JK Tyre, JK Paper, JK Lakshmi Cement and many more that are recognized for the value they deliver. Established in 2011 with its *'Vision' To be one of India's most innovative higher education institutions'*. JKLU, in less than ten years, has made its presence felt as a most sought after destination in the country to pursue quality education in the domains of Management, Engineering and Design. The world of work is changing rapidly – so is the world of business, technology and imagination. Education must take bold strides to walk towards this new landscape. At JKLU, we are excited about shaping this horizon and grooming professionals who will not only be among the best in the world but also best for the world.

To realise its vision, the University is:

- practicing teaching that inculcates critical thinking and problem solving,
- pursuing research that leads to innovation and enhancement of real-life applications,
- pffering experience that leads to all round development, and
- developing a culture that is strongly rooted in interdisciplinarity and learning by building, not just doing.

Thrust and Focus

Our thrust is on an academic curriculum that is contemporary, pedagogy that is experiential, student experience that offers opportunity, community & comfort, and a rapidly evolving reputation & brand image. To achieve our stated objectives in alliance with our 'Vision, our continued focus stays on *Governance & Finance, Infrastructure & Technology, Operations Excellence, and Alliances & Affiliations*. Pedagogy boost knowledge dissemination to be more inclusive, holistic, engagement-based, experiential, flexible, and enjoyable. JKLU adopted experiential learning pedagogy across the university. Project based Learning for engineering and design students accelerates their knowledge in providing solution in more sustainable way with cost effective experiential research works and projects to earn valuable hands-on exposure as per industry demands.

Design students are working on thinking and designing workable solutions around societal issues or needs. Capstone projects arean essential component for all the management students to make them work on challenging problem which needs intensive use of design and critical thinking. As a part of participative and cognitive learning, peer-learning and peer-evaluation are the key components of teaching pedagogy. JKLU is committed to deliver quality education following a sense of values, culture and distinctive vision of the organization. Institution reputation and brand propels an institution from its mission to its distinctive vision by keeping the brand promise with all stakeholders.

Teaching-Learning Philosophy at JKLU

JKLU operates with three institutes. These are in the disciplines of Design, Management and Engineering and our teaching-learning and innovation happens at the intersection of Design, Business and Technology which is very much in sync with some of the fundamentals principles of the National Education Policy 2020.

JKLU is committed to providing holistic, flexible, and multi-disciplinary education. Learning at JKLU has many facets. Depth in chosen discipline and breadth across other disciplines is the key feature of learning. Themes and new age technologies driving innovation in business and industry such as *Design Thinking, Internet of Things, Data Science, AI, and Robotics & Automation* are included in all programs offered by the university. Courses related to design thinking, critical thinking, and problem solving are being taught among students all across the University are a mandatory a step towards learning life skills. The curriculum is designed in such a manner that students have to work on live applications, labs,

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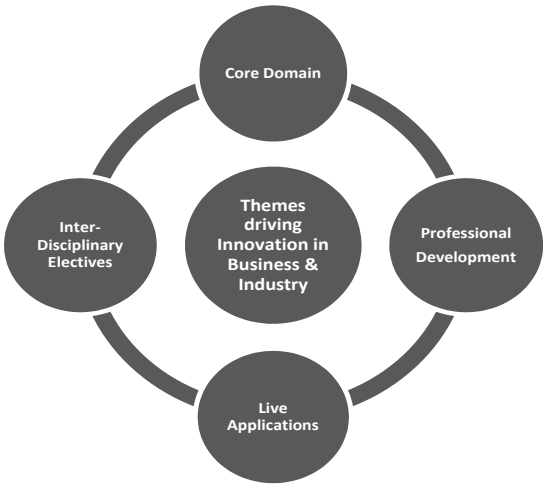
simulations, and capstone projects for real professional development. Figure-1 below describes the learning wheel followed at JKLU.

Figure 1: Learning Wheel at JKLU

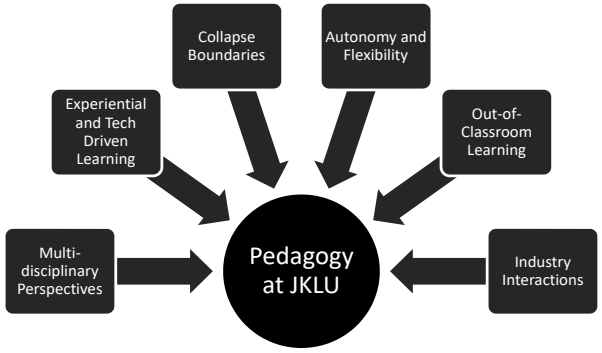


The University has developed a pedagogy model to ensure quality in all the teaching-learning processes. Teaching methodologies are designed as per the outcomes of various programmes and those are reviewed periodically, based on feedback from students and course instructors. Incorporation of experiential and technology driven learning always boosts students to learn by doing the things themselves and by applying classroom concepts to real world challenges. Collapsed boundaries facilitate learning from the best professors, quality facilitators, practitioners and teaching assistants on campus. Autonomy and Flexibility allows the choice of what one wants to study. Students take charge of learning, enjoy freedom and the responsibility to change their mindset, in following curiosity, or to pursue a new interest. Students utilize the various centres at the university like Centre for Entrepreneurship& Innovation and the Center for Communication & Critical Thinking for out-of-classroom learning. They are also benefitted from a close and sustained dialogue with industry. Through regular industry interventions and interactions, students leverage the advantages of mentorship, counselling, and work opportunities. Figure 2 describes Pedagogy at JKLU.

Key Academic Collaborations

As part of academic collaborations, JKLU, in agreement with University of Massachusetts Amherst, has forged a strategic partnership that offers Joint Masters degree programs between JKLU and U Mass and summer programs at the Mt. Aida campus of U Mass in Boston. 'Learning by Doing' has been the core of teaching pedagogy adopted at the University. With an aim to drive experiential learning and hands-on experience for the students, the University adopted Project based Learning (PBL) under the mentorship of Olin College of Engineering, Boston, USA. Another academic collaboration is with University of Florida, where students can attend the final semester and can take admission in the master's program at University of Florida, with under-graduate & post-graduate courses at reduced fees.

Figure 2: Pedagogy at JKLU



Key Industry Collaborations

JKLU has Microsoft IT Academy which facilitates hand-on-learning. University signed MoU with Indian Space Research Organization (ISRO) and installed Indian Regional Navigation Satellite System (IRNSS) receiver for data collection and analysis. For robotic process automation, our university collaborated with Ui Path. JKLU has a Centre of Excellence for IoT and Instrument Innovation in collaboration with Texas Instruments. JKLU has a collaboration with Moody's Analytics and a Business Simulation lab (Biz Lab) of All India Management Association (AIMA) is established to engage management students in real world problems solving (Raina et al., 2020).

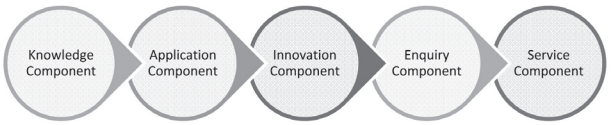
Experiential Learning at JKLU

The National Education Policy 2020 envisages knowledge body that can transform India into a pool of intellectuals possessing sympathy and compassion towards society. JKLU's curriculum and pedagogy are designed in such a way that builds respect for our constitutional values and awareness towards change in society. Going forward, the current standard

accreditation system will change and there will be two types of universities or Higher Education Institutions (HEIs), viz Research University and Teaching University. As per NEP, there should be at least 3.5 crore additional seats in HEIs. Here, the quality will be the differentiator in broader access, equity, and inclusion in higher education. The challenge is to maintain the same high-quality standards for all HEIs in the country and the above goals. Considering industry requirements, the need for moving towards a balanced liberal undergraduate education with imaginative and flexible curriculum, there will also be an emphasis on social, emotional, ethical and spiritual development (Meskhi et al, 2019).

JKLU prepares students for core components of experiential learning. The components are broadly classified as Knowledge Component, Application Component, Innovation Component, Enquiry Component and Service Component. Figure 3 shows all core components of Experiential Learning at JKLU.

Figure 3: Core Component of Experiential Learning at JKLU



The knowledge component implies preparing explanatory abilities through interdisciplinary subjects, cutting-edge technologies, facts, and frameworks. The application component means executing the approaches successfully by perceiving the real authoritative factors. It is a practical execution approach focused on collaboration, team-work, and perception building, accomplished through activity learning, labs, track excursions and focused on explicit branches of knowledge like Sustainability, Design Thinking, Technology and Entrepreneurship, to encourage hands-on experience. The innovation component implies learning through innovation. The enquiry component prepares students to think critically and analytically. The service component means understanding the ethical standards to make a balance between a profession and society. The service component can be accomplished through an extra vivid program of experience that explicitly centers around subjects like business ethics, cooperation, social service, leadership, social advancement, empathy, compassion, and innovation for improving societal needs (Chapke et al., 2020).

The National Education Policy 2020 has brought up the following critical parameters for quality higher education institution:

i. The central purpose is to move ahead to the multi-disciplinary organization of teaching, learning, exploration, research and social engagement. It unequivocally promotes inter-disciplinary research and increments asset proficiency at both resources and faculty engagements. In alignment with this, JKLU education offerings include a mix of Design, Management, and Technology. Thus, the university mandatorily teaches automation, robotics, artificial intelligence, machine learning and data analytics to all students irrespective of the chosen discipline (Sharma et al., 2015).

ii. The National Education Policy encourages teaching and research collaborations with top rank foreign institutes. JKLU became the first institute in Rajasthan by hiringa foreign national as a Professor in engineering. For a long time, JKLU facilitates credit sharing schemes to students who undergo the student exchange program at partnered international institutes. JKLU has signed numerous gainful MoUs with leading international institutes in varied capacities of student exchange, faculty exchange, research collaboration and teaching collaborations. In the same principle, JKLU also collaborated with IIT Gandhinagar for semester exchange, which benefits students in acquiring learning in one of the leading institutes of our own country (Sheikh, 2017) and (Wurdinger et al., 2017).

iii. NEP also took a step where a four-year under-graduate with research exposure can pursue a doctoral program. Such provisions are already existing in the global education landscape. JKLU provides an opportunity for direct enrollment in a doctoral program after a four-year engineering program (Altbach et al., 2019).

iv. The new framework proposed in this policy will encourage the culture of innovation, flexibility, autonomy and entrepreneurship for professional development, intended to build intellectual, social, moral, and cultural capabilities in an integrated manner. JKLU provides the opportunity for students to incubate their business ideas in the Atal Incubation Centre of the university. It gives

a catalytic boost for innovation and creativity in students. JKLU offers a flexible curriculum, open electives, and specializations to equip students with 21st century skill sets aligned to Industry 4.0 standards. In this direction, JKLU has included internship and training as an integral part of the curriculum. Recently, in one of the post-graduate programs, JKLU provided features of multiple entries and exit points (Baleghi et al., 2019).

v. National Education Policy emphasizes accessibility, gender rationality, affordability, and accountability. To make quality education affordable, JKLU provides lucrative scholarships to deserving and needy students. Assistance is also extended to brilliant students in pursuing semester exchange abroad and by providing financial support in presenting research work in conferences of repute overseas (Raghavan, 2020).

Conclusion and Way Forward

Gross Enrollment Ratio (GER) in colleges and universities proposed an increase to 50 per cent and the affiliation system to be phased out within 15 years. Currently, there are several thousand colleges that are affiliated to different state universities. This decision will open enormous opportunities to expand JKLU, as many affiliated colleges will not mobilize the required capital and intellectual resources for upgradation into autonomous colleges or universities. Further, the current trend of large corporate universities is likely to strengthen, opening up the opportunities of starting more universities in other parts of the country. All Higher Education Institutions (HEI) have to provide credit-based courses in community engagement, environment, and value-based education. HEIs also have to attract international students. To attract foreign students, a high-level transformation of the campus will be required. Also, non-veg food will have to be served on campus. Expanding the country's research capabilities, improving the standards, and evolving a culture of study are urgent needs for India to become a knowledge economy. The emphasis on research in NEP 2020 and the proposal to set-up the National Research Foundation (NRF) as an autonomous body augurs well to fast-track, improve quality, and synergize different research activities countrywide. It may strengthen industry-academia partnerships to produce industry-relevant research, to productive and to monetize the same.

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References

1. Altbach, P. G., Reisberg, L., and Rumbley, L. E. (2019). *Trends in Global Higher Education: Tracking an Academic Revolution*. Brill.
2. Baleghi Damavandi, S., Zameni, F., and Taghvaee Yazdi, M. (2019). Place of Research Ethics in the Health Higher Education System. *Clinical Excellence*, *9*(1), 36-47.
3. Chapke, R. P., and Singh, S. (2020). Higher Education in India: Quality Concerns. *Studies in Indian Place Names*, *40*(31), 7-11.
4. Meskhi, B., Ponomareva, S., and Ugnich, E. (2019). E-learning in Higher Inclusive Education: Needs, Opportunities and Limitations. *International Journal of Educational Management*.
5. Raghavan, H. (2020) Reimagining Higher Education in India: Some Insights. *Reimagining Indian Universities*, 103.
6. Raina, R L and Choudhary, K (2020). Strategies for Reimagining Indian Higher Education Landscape. *Reimagining Indian Universities*.
7. Raina, R L and Choudhary, K (2020). Attracting International Faculty and Students to Indian Higher Education System: Challenges and Opportunities. *University News,* Vol 58, No. 33.
8. Raina, R L (2020), *Atmanirbhar Bharat – Self-reliant Universities*, *Financial Express Education*.
9. Sharma, S., and Sharma, P (2015). Indian Higher Education System: Challenges and Suggestions. *Electronic Journal for Inclusive Education*, *3*(4), 6.
10. Sheikh, Y A (2017). Higher Education in India: Challenges and Opportunities. *Journal of Education and Practice*, *8*(1), 39-42.
11. Wurdinger, S., and Allison, P. (2017). Faculty Perceptions and Use of Experiential Learning in Higher Education. *Journal of e-learning and Knowledge Society*, *13*(1). ❑

Enliven Consciousness of the Learner to Accomplish the Objectives of National Education Policy

Bhuvnesh Sharma*

The Vision of the New Education Policy states to "develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with one's country, and a conscious awareness of one's roles and responsibilities in a changing world. The vision of the Policy is to instill among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen." Another great objective of the NEP–2020 states: Ultimately, knowledge is a deep-seated treasure and education helps in its manifestation as the perfection which is already within an individual, with greater depth, greater critical thinking, greater attention to life aspirations, and greater flexibility (such as *seva, ahimsa, swachchhata, satya, nishkam karma, shanti*, sacrifice, tolerance, diversity, pluralism, righteous conduct, gender sensitivity, respect for elders, respect for all people and their inherent capabilities regardless of background, respect for environment, helpfulness, courtesy, patience, forgiveness, empathy, compassion, patriotism, democratic outlook, integrity, responsibility, justice, liberty, equality, and fraternity) will be developed in all students.

For achieving and realizing the above mentioned great aspirations and objectives, certainly the suggested objective measures at the structural levels in the field of education are very important and of great value but without taking care of the consciousness of the learner it will not be possible to achieve the desired objectives, because basically all the provided information is received and registered by the individual through one's own consciousness. As the NEP also suggests to make Education *"Learner Centered'*, so the consciousness of learner must be first of all enlivened. Expressing the importance of Consciousness HH Maharishi Mahesh Yogi ji always stated that "Consciousness is the prime mover of life", "Knowledge is structured in Consciousness", "ज्ञानंचेतनायांनिहितम" (Gyanma Chetanayaam Nihitam). In the prevailing systems of education all the emphasis is on different ways of providing the objective information without doing much to develop and evolve the consciousness of the learner and sharpening the receptors of knowledge, the intellect and senses with greater mind body coordination.

India is the land of Veda, the land of Total Knowledge, the knowledge of living life in fullness, which is the only and the most essential and effective means for achieving the objectives of National Education policy, not only for transforming India to be an ideal, peacefull, prosperous Nation but also to be able to lead the whole world towards the same.

The Indian Philosophy which is philosophy of action, achievement and fulfillment was being taken as philosophy of renunciation from last few hundreds of years. Now the time has come to apply Indian Knowledge in its Totality.

Considering the objectives of National Education Policy like awakening full human potential hidden within everyone, increasing creativity, ability of how to think not what to think, Cognitive abilities, imbibing respect and conscious awareness for constitutional values, Holistic development, providing basis for interdisciplinary and multidisciplinary education, sustainable development, enlightenment and all others can easily be accomplished through simple but the most effective supreme technologies for developing and evolving Consciousness which can be very easily introduced in the Higher Education system and effectiveness of these technologies have been verified and validated by hundreds of scientific researches in about 250 research Institutes and Universities in more than 30 countries of the world. It is evident from all the scientific researchers conducted on Transcendental Meditation that one simple technique can help realize most of the objectives of NEP 2020. Trying to teach about all the various qualities mentioned in the objectives of NEP will be more like treating

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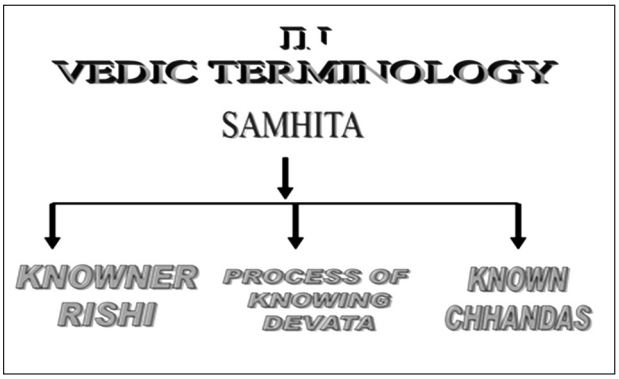
leaves of a tree while handling the Consciousness of the learner will be like watering the root to nourish the whole tree of Life.

Indian Vedic technologies, the technologies of Consciousness are the supreme technologies (Because on one hand the practitioner is gaining deep rest but on other hand all aspects of life are supported for success) for gaining excellence in all aspects of life and are not just limited to one's profession. Developing the consciousness of the learner, the human mind, the Cosmic Computer and applying the unique apps provided by Vedic texts is going to help India regain its status as Jagat Guru.

When we say education should be such as to enlighten the students we have to provide the proper technique which Indian Sages were using to tap the infinite potential within. Being Supreme Technology it is very easy to incorporate Technologies of Consciousness in Higher Education. Vedic knowledge is the technology of living life in holistic manner good for the individual, society and the whole world, not partial in its approach like modern science. It is not enough to remember and be inspired by the glory of the past but to really provide and apply the supreme technologies of consciousness which was used and practiced by our great sages. Fortunately, whenever life is diverted from Ideal natural holistic way of life, nature sends great saints like Swami Vivekanand, Maharishi Mahesh Yogi ji and many others to revive the knowledge and bring back the human life on right track that is in accord with the eternal laws of nature which maintains and organizes the whole creation. Maharishi Mahesh Yogi ji has practically realized the dreams of Swami Vivekanandji through the technologies of Consciousness for the sake of health, happiness and prosperity of the individual, society and the whole world. While HH Maharishi Mahesh Yogi ji was propagating and establishing this supreme Knowledge of India, someone asked him how come India is not at the top amongst the nations of the world even though having the Supreme Knowledge, Maharishi ji explained "छिन्नैमूलेनैव शाखा न पत्रम" (*Cchinne Mulenaiwa Shakhana Patram*) that is if the root is cut all the leaves and stems dry up, so once the education stooped providing the knowledge and experience of the Self, the whole education became baseless, incomplete causing problems for individual, society and the whole environment. That is why Srimad Bhagwad Geeta states "vkè;kRefo|kfo|kuke" Study and experience of SELF is the Supreme amongst all the knowledge.

In Vedic terminology the term "Veda" means knowledge and knowledge has three parts The Knower, The Process of knowing and The Known. In present times on objective information is being provided taking care of only the known while traditional Vedic Knowledge of India develops and provides the knowledge of the Knower and process of knowing as well.



Evolving the Consciousness of the knower and refining the perception, the process of knowing is most essential. As stated in Shrimad Bhagvad Geeta, Knowledge is the biggest purifier and that is gained in time through regular practice of Yoga (not just physical Yogasanaas and Pranayam but the real union with one's own Self through the technique of Transcendental Meditation) and then bringing that into the field of action (Yog-Sansiddh through the proper use of Maharishi Patanjali's Yog-Sutraas by Maharishi TM Siddhi Programs). Realizing the importance of Consciousness UGC earlier in the year 2000 itself has renamed the Yog Departments of the Universities as Department of Human Consciousness and Yogic Science but the real techniques for evolving consciousness have yet to be practically provided to and practiced by all the vast numbers of students and faculties. Owning the great technologies of living ideal life progressive and fulfilling in all aspects but not applying the Great Vedic Knowledge we are only following the partial approach of objective knowledge leading life to chaos and problems.

Hon'ble Prime Minister of India Sri Narendra Modiji expressed and emphasized on India becoming *Aatm Nirbhar* and it will be accomplished very easily if citizens are trained to have *Aatm Anubhav,* experience of individual's own Self the reservoir of infinite creativity. If India has to regain its status as Jagad Guru its own supreme techniques of gaining knowledge has to be used which locates the source of whole creation in one's own settled level of

awareness, (Duredrisham Grihapatim Atharyum" that is looking farther and farther the observer finds the whole creation as reverberation of one's own self.

As is shown in the Figure-1 the individual looking beyond through senses exploring the outer world takes the attention farther and farther and ultimately comes back to his own Self realizing the real meaning and experience of Vedic expressions like (*Aatmai Vedam Sarvam*) that is one's own Self if Total Knowledge, Veda the basis of whole creation, (*Sarvam Khaluidam Sarvam Brahm*) that is Whole Manifest creation is *Brahm* and that is one's own Self, (*Aham Brhamasmi*). (*Aham Brahmasmi*) that is I am Brahm, and further it is stated that to attain Total knowledge study one's own Self. And all this has to be experienced gaining Higher States of Consciousness, not to just know it intellectually, for which Srimad Bhagwad Geeta states (*Yo Buddhe par tatwasah*) that is that element is beyond intellect, one has to Transcend to have its experience. Only the proper technique for transcending and experiencing Self has to be introduced for the learners in the field of education.

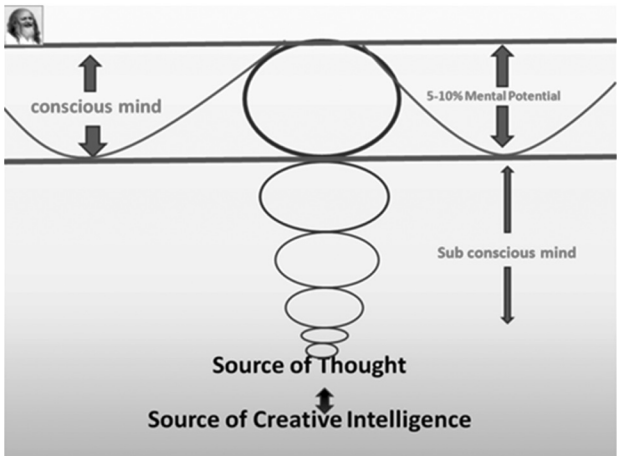
Unfolding the sub-conscious mind by diving deep within to experience the source of creative intelligence will promote the ability to spontaneously act in accord with laws of nature leading to success in all aspects of life.

Figure-1: Indepth Observation

As the NEP suggests and indicates about the hidden treasure within, only the technique to explore and unfold sub-conscious (Figure-2) has to be incorporated in Education.

Providing education only by objective means can never bring Holistic development, the fulfillment

Figure-2: Unfolding Subconsciousness



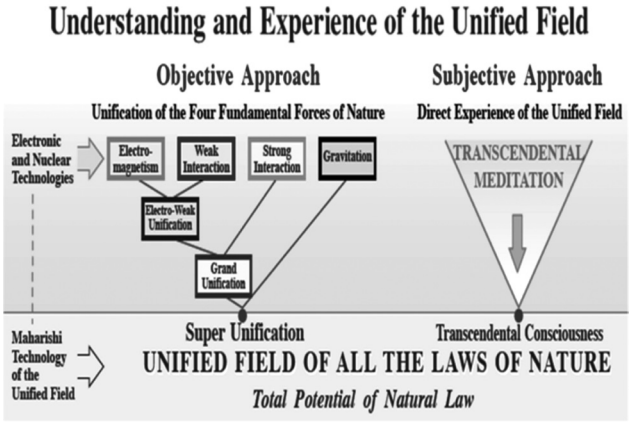
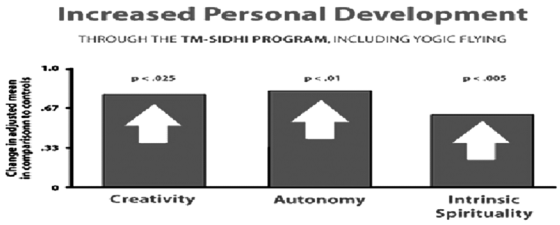
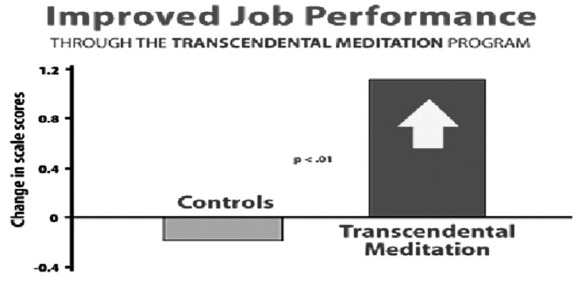
of the purpose of education will come by taking care of the consciousness of the learner otherwise crores of efforts to educate on objective level only will go in vain as is said by Goswami Tulsi Daasji in Sri Raam Charit Manas (Raam Charit Sar Binuanw haye so sharamjaayenakotiupaai) that is without diving deep within by taking the awareness to finer and finer levels and finally transcending only, all the stresses and strains will go away not by any other means and the efforts only on objective level will be wasted. Providing the experience of the fourth state of Consciousness, Transcendental Consciousness separate from Waking Dreaming and sleeping consciousness is the only key to solve all the present day problems and take care for a bright future. As is said "Handle that by handling which everything else is handled", by handling Consciousness most of the objectives of NEP could be realized.

Just to give a glimpse of how one single, simple effortless technique could solve almost all the weaknesses of present day education and the life of the people, some of the objectives of NEP and realizing them through the technologies of developing Consciousness have been shown in the Table-1 along with a short explanation and scientific validation.

Knowledge is a deep-seated treasure and education helps in its manifestation as the perfection which is already within an individual. Direct experience of the deep seated treasure, the source of creative intelligence through the practice of Transcendental Meditation (TM) technique will bring perfection in action.

Greater flexibility such as TM technique develops infinite flexibility in Consciousness.

Table 1: Objectives of NEP-2020

Objectives of NEP (A)	Accomplishing the objectives of NEP through developing Consciousness (B)	Explanation and Scientific Validation (C)
Develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with one's country and a conscious awareness of one's roles and responsibilities in a changing world.	Vedo Akilam Dharma Moollam Natural Law is the basis of constitutional laws, by enlivening consciousness of the learner naturally all the thinking and action will be in tune with natural law resulting in all good for everyone and non-good for no one. Unified field has been identified as the reservoir of all the laws of nature, the Constitution of the Universe, which can easily be experienced through Transcendental Meditation (TM) technique.	 Only the human nervous system has unique ability to take the awareness to the Transcendental level, the Unified field of all the Laws of Nature so that all the thinking and action is spontaneously orderly and in accord with the Laws of Nature. Decreasing the activity creates order so decreased mental activity during Transcendental Meditation increases orderliness in brain waves.
To instill among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect and deeds.	Aadhyatm Vidya Vidyanaam, experience and study of Self is supreme amongst all the knowledge, Practice of TM technique will not only fulfill spiritual purpose but will also sharpen intellect and senses.	 University students who learned the TM-Sidhi program, in comparison to control students from another university, increased significantly on three measures of personal development and psychological health—increased creativity, increased autonomy, and increased intrinsic spirituality. The TM-Sidhi program participants also improved significantly on an overall measure of well-being and a measure of psychological integration in comparison to the control students. **Reference:** *Modern Science and Vedic Science* 1: 471–487, 1987.
Developing Skills	Yoga Karmasu Kaushalam, Yoga brings skill in action. Naturally the natural skill of the learner will manifest and develop easily. The very foundation of skill, the consciousness will help to develop skill in action.	 Employees who learned the Transcendental Meditation program showed improved job performance in comparison to control subjects. **Reference:** *Academy of Management Journal* 17: 362–368, 1974.

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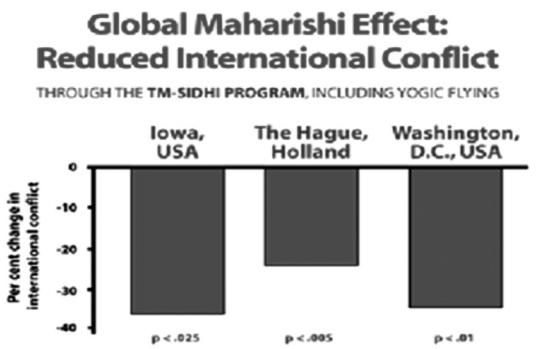
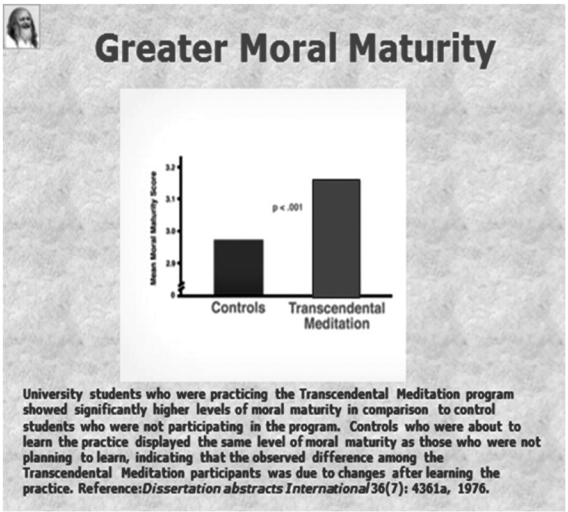
<td>Human Values: Value-based education will include the development of humanistic, ethical, Constitutional, and universal human values of truth (satya), righteous conduct (dharma), peace (shanti), love (prem), nonviolence (ahimsa), scientific temper, citizenship values, and also life-skills; lessons in seva/service and participation in community service programs will be considered an integral part of a holistic education.</td>
<td>Purifying consciousness will inspire orderly thinking thereby imbibe human values effortless.

Speaking truth (Satya) has not to be practiced but it is a quality of purity of consciousness and is imbibed through practice of Yog, experiencing Transcendental Consciousness. Righteous Conduct (Dharma) is thinking and acting in accord with the Laws of Nature (Eternal never changing laws of Nature) which automatically comes along with purity and orderliness in consciousness. Peace (shanti, Non-violence (Ahimsa) and love (prem) develops in behavior naturally with the practice of TM Siddhi program based on the principles of Patanjal Yog Sutraas, Ahimsa pratishtayaam Tat Sannidho Vair Tyaag.

Fulfilled individuals radiate peace and harmony in society and naturally develop quality of service without any necessity to be taught.</td>
<td>Growth of Ideal Social Behavior
• Increased Social Maturity
• Increased Ability To Be Sociable With Others
• Increased Capacity for Warm Interpersonal Relationships
• Increased Friendliness
• Improved Personal Relationships
• Increased Ability To Be Fair-Minded and Reasonable
• Increased Good Humor
• Increased Trust
• Increased Tolerance
• Growth of a More Sympathetic, Helpful and Caring Nature
• Increased Sensitivity to the Feelings of Others
• Reduced Behavior Problems in School: Decreased Absenteeism, Decreased Rule Infractions and Decreased Suspensions Days
• Greater Appreciation of Others

Scientific research on TM practitioners have shown to develop above qualities in the individuals and society.

During the periods of three assemblies approaching or exceeding 7,000 experts in the TM-Sidhi® program (the square root of one per cent of the world's population), there was a significant decrease in international conflict worldwide. Reference: 'Time series impact assessment analysis of reduced international conflict and terrorism: Effects of large assemblies of participants in the Transcendental Meditation and TM-Sidhi programs.' Paper presented at the American Political Science Association Annual Meeting, Atlanta,</td>
</tr>
<tr>
<td>Responsible commitment to human rights</td>
<td>Knowledge and experience of one's own Self is the primary basic human right. Even when we say Akshar Gyan it is not just the literary knowledge of Aa but the experience and understanding of infinite hidden potential of Self. The whole creation is the manifestation of collapse of Aa, the infinity to a point.</td>
<td> 

University students who were practicing the Transcendental Meditation program showed significantly higher levels of moral maturity in comparison to control students who were not participating in the program. Controls who were about to learn the practice displayed the same level of moral maturity as those who were not planning to learn, indicating that the observed difference among the Transcendental Meditation participants was due to changes after learning the practice. Reference: Dissertation abstracts International 36(7): 4361a, 1976.</td>
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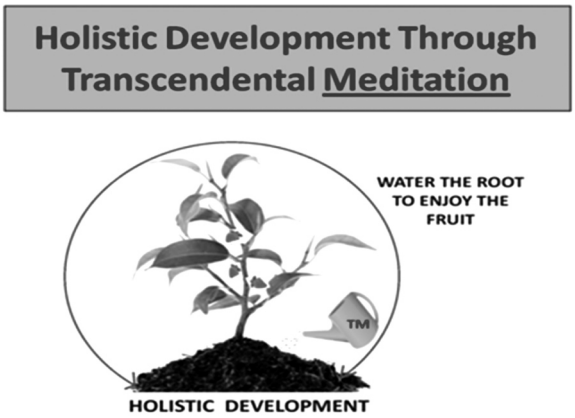
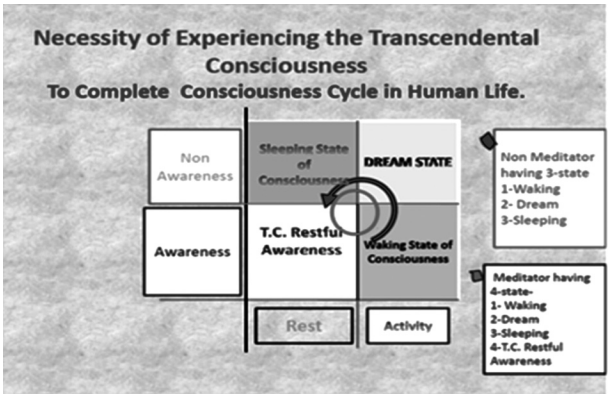
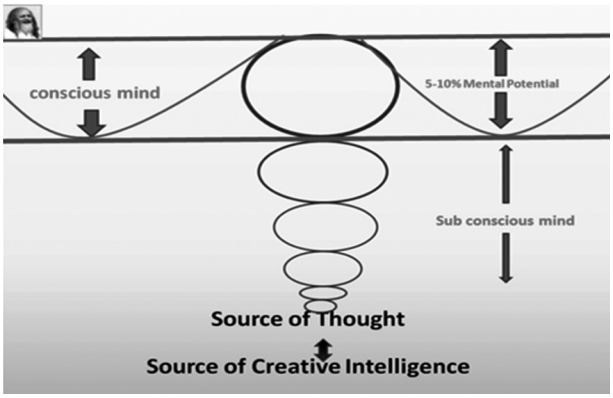
Sustainable development and living	Holistic Consciousness developed through TM will inspire holistic living good for the individual, society and the environment resulting in sustainable development and living.	
Global well-being, thereby reflecting a truly global citizen	Experiencing the Higher states of Consciousness namely Transcendental, Cosmic, Refined Cosmic and Unity Consciousness will develop and imbibe the feeling of Vasudhiva Kutumbkam, intellectual information or verbal statement will not bring the stated fact to reality.	 It is necessary for everyone to experience the fourth state of Consciousness like the other three states of consciousness to experience the unity in the diversified creation so that one really feels the world to be one's family.
Greater critical thinking	Practice of TM and TM siddhi programme provides the experience of two completely opposite states silence and activity thereby develops critical and analytical thinking.	

Ahimsa is experiencing the seat of infinite order within with practical application of Patanjali Yog Sutras develops the quality of *Ahimsa* as *Ahimsa Pratishthayam* "*Tat sannidho Vair Tyaga*". Once the quality of *Ahimsa* is established even in the vicinity of such an individual the enmity liquidates. The quality of *Ahimsa* cannot be imbibed just by talking about not harming others because even thinking bad for someone is also *Ahimsa*.

Satya is speaking truth also has to be imbibed and is a quality of Consciousness, Satya has to be non-changing, the laws of nature are eternal, non-changing, experience and establishment of purity of consciousness naturally develops the quality of naturally speaking the truth.

Nishkaam Karma is the state of Cosmic Consciousness which develops through the regular

practice of TM the quality of selfless service dawns naturally and the performer remains unattached from the impression of *Karma*, the action.

Education is Fundamental for Achieving full Human Potential

Multidisciplinary Abilities Across the Science, Social Sciences and Humanities

Veda, that is Knowledge is the reservoir of all the laws of nature, in awakened consciousness all the Laws of nature become lively. Locating and experiencing the source of all the disciplines will help achieve the purpose of multidisciplinary studies. Not only there are many disciplines one may be expected to study but there are innumerable, infinite laws of nature and first of all no one can easily study them all and nor can apply spontaneously in thinking and action, fortunately with the technique of transcending all the laws of nature can be easily enlivened in the simplest awareness of the individual so as to think and act spontaneously always right that is in accord with the laws of nature, for these supreme knowledge India is known to be Jagad Guru.

Not only Learn, but more Importantly Learn how to Learn

This states the technique to think and act that is, get established in *Self*, Be *Yogastha* and then act so that the thought and action is holistic and good for everyone and the whole environment.

Contribution to Society

Creating Harmony & Peace in Society-Colleges and Universities can become centers for creating Peace Harmony and Invincibility for the nation and the Whole World through Maharishi Effect by practicing TM and TM Siddhies in groups morning and evening

This way it can be shown that almost all the objectives of NEP-2020 can be achieved by handling and enlivening the consciousness of the learner with the simple technologies of consciousness. Students are being trained to program computers which is good but simultaneously the technology to program their own mind, the Cosmic Computer, which actually is the birthright of every human being should be trained. Transcendental Meditation is not just a technique of Meditation but lays the foundation of Maharishi Vedic Science which explains scientific basis of Vedic Knowledge, develops the cognitive ability of the learner and will help to develop and apply Holistic Vedic technologies for the benefit of the individual, society and the environment. It will also serve the purpose of education, the Enlightenment of the learner.

So the following few steps could be easily incorporated in 5-6 days only with one and half hours of every day in *Deeksha* Programme (Induction Program) for students and faculties which will not only make learning and teaching joyfull but will also fulfill the real objective of Education.

1. Introducing the simplest technique of Yoga (Transcendental Meditation) which can easily be practiced for 20 minutes morning and evening will not only give the deep rest to the nervous system, develop full mental potential, better health, better behavior, evolved consciousness but will also help in creating an ideal society and positive life nourishing environment.
2. TM Siddhi programme for gaining perfect coordination between mind, senses and body, developing skill in thinking and action. It will also develop higher states of Consciousness namely Cosmic Consciousness, Refined Cosmic Consciousness and Unity Consciousness for the learners.
3. Incorporate teaching methods of Maharishi Consciousness Based Education so that teaching and learning becomes a joy.
4. Incorporate Vedic Technologies like Holistic approach to health (Ayurveda), Sthapatya Veda (Buildings constructed to maintain harmony with nature), *Jyotish, Yagya* and *Yagya Anushthan* and many other Vedic Technologies for developing all aspects of the life of individuals, society and the Nation.

Human nervous system has the ability to focus attention on smallest things while maintaining the unbounded awareness (*Anoraniyan, Mahatomahiyaan*) that is ability to comprehend smaller than the smallest to bigger that the biggest, and such an awakened Consciousness is Vedic Consciousness and awakening this Holistic Vedic Consciousness is the goal and objective of the education which can be easily achieved through the above simple technologies of Consciousness. This will achieve the long sought expression of Vedic Knowledge. ❑

Mindset, Teacher Training and Technology: Key Issues in Implementing National Education Policy—2020

Narendra Sharma* and S B Sharma**

All United Nations Member States adopted the Global Goals i.e. Sustainable Development Goals (SDGs) in 2015 to take action for ending poverty, protecting the planet and ensuring peace and prosperity to all people by 2030.In sustainability, recently Agenda 2030 has been adopted as major action to achieve the target. Among all 17 sustainable goals "Quality Education" is an important goal. In India, the positivity lies in the fact that a major part of population consist of youth while biggest problem is the increasing number of unemployed youth.

Now with the New Education Policy 2020, the platform has been set to improve the level of education and it recommends a modern, progressive and equitable education system. The government needs to have a systematic approach to implement the NEP–2020 successfully and provide quality education to all youth at all levels. It proposes the formation of a variety of organizations with somewhat different objectives like:

- Research-intensive Universities to place equal emphasis on teaching and research;
- Teaching-intensive Universities to place greater emphasis on teaching but still conduct some research;
- Autonomous degree-granting Colleges focusing primarily on undergraduate teaching; and
- Higher education institutions must cater for different needs of learners and employers.
- To create a range of differentiated higher education institutions. A university as a multi-disciplinary institution of higher learning that offers undergraduate and graduate programmes with high quality teaching, research and community engagement.

India's Development against "Quality Education"

India has taken various initiatives to achieve the goals towards universalization of education over the past decades, but still we are lagging behind in quality teaching learning process, quality of skills imparted, gender equality and enrolments. The Table-1 shows an overview of progress of India against fourth sustainable development goal of "Quality Education":

Table-1: Progress of India against Fourth Sustainable Development Goal

SDG	Indicator for SDG India	National Target Value for 2030	Current State Value (as on 2017-18)
4.1	Adjusted net enrolment ratio at elementary (class one to eight) and secondary (class nine to ten) school	100	75.82
	Percentage of correct responses on learning outcomes for class five students in language, mathematics and environment science	67.891	54.7
	Percentage of correct responses on learning outcomes in language, mathematics, science and social science for class eight students	57.171	44.6
	Percentage of children in the six to thirteen-year age group who are out of school	0.28	2.9
	Percentage of average annual drop-out rate at secondary School	10	17.1
4.2	Gross Enrolment Ratio (GER) for higher education	43 to 45	25.8
4.3	Average unemployment rate per 1000 persons for males and females	14.8	63.5
4.4	Gender-parity index for elementary (classes one to eight)	1	1.052
	Gender-parity index for secondary (classes nine -twelve)	1	1.02
	Gender-parity index for higher education	1	0.97

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4.5	Adult literacy rate	100	70.5
4.6	Percentage of schools with: Electricity: Information and Communications Technology (ICT) / computers Ramp for the disabled Drinking water Functional toilet for girls	100	60.8 14.1 61.3 87 94.4
4.7	Percentage of school teachers professionally qualified Percentage of elementary and secondary schools with pupil-teacher ratio less than/equal to 30	100 100	81.2 70.4

Source: KPMG, International.

The values in the above table indicate that yet a lot of changes are required to meet the targets. The New Education Policy insists in taking more steps to ensure its implementation. The policy has come at a time when schools have to adjust to new societal demands and expectations. It is clear that without a skilled workforce, no community will flourish and no industry will boom. Despite the best efforts of educationists, governments and other stakeholders, schools are struggling to meet the evolving needs of students and their future employers. The question that arises before us is: How this policy will be implemented so as to help in changing the entire scenario? What are the major issues and challenges to be faced?

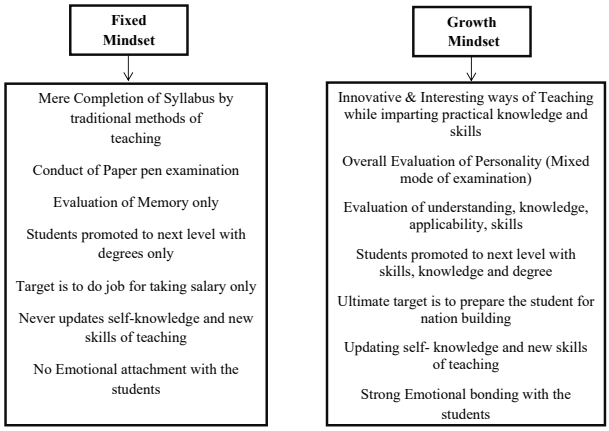
Issues and Challenges in the Way to Implement NEP–2020

Though there are many issues which come across as soon as we look for implementation of the New Education Policy, 2020, but one of the major issues is path breaking 'Mindset'. The policy is clear about its objectives and intentions of the policy framers are very clear but the way to reach its destination and getting through the objectives is quite uncertain. A mindset is a belief that is the way we handle situations, the way we sort out what is going on and what we should do. The education system in operation is out of date but it has been entered in the minds of the stakeholders and a little deviation from it creates a lot of problems and impatience. During COVID-19, adverse situations were observed when the teachers had to resort to absolute new ways of teaching and parents had to avail the resources to their children to facilitate the learning. If we set the network concerns aside for a while then it was an innovative and out of the box method of teaching and students also enjoyed it.

In school education, the policy envisions an extensive structural redesign of the curriculum but in order to deliver this curriculum effectively, we need teachers who are trained in and understand the pedagogical needs. Many of the curricular changes require substantial 'mindset shifts' on the part of teachers, parents as well as other stakeholders (Figure-1). Further more, they need to shift the focus from teacher-centered learning to student-centered learning to foster collaborative skills, critical thinking, problem solving and decision-making abilities in the youth.

The changing dynamics of information technology raises concerns on the teacher's mindset towards the integration of e-learning in higher education. The teaching faculty has relatively high positive computer attitude; with purposeful practice and enabling environment, they can manage technology-oriented proficiencies and professional performances effectively. Thus teachers in higher education have a task of sustaining change development that comes with e-learning because it is with this change acceptance that the education system will perceive the need to incorporate technology as part the teaching process. *Dweck (2006)* states that "mindset profoundly affects the way you lead your life".

Figure-1 Mindset Shift Required for Progress in Education



Competent Teacher

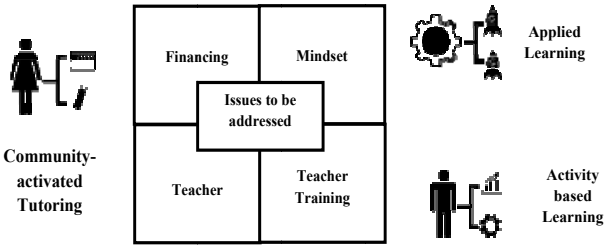
Teacher is the common factor which influences the quality of education. It is the teacher who would finally shape the future of nation in the classroom

through the new policy. The policy states 'Teachers truly shape the future of our children – and, therefore, the future of our nation' thereby implying that teachers play the most important role in nation-building by creating high quality of human resource in their classrooms.

Justice JS Verma Committee Report, 2012 said, 'a broken teacher education sector is putting over 370 million children at risk …… upon inspections cores of private Teacher Education Institutes (TEI) were found to have only a foundation stone in the name of infrastructure and 99 per cent passing rate.' The report also revealed that on an average 85 per cent teachers failed to qualify the post-qualification competency test–Central Teacher Eligibility Test. The challenges and issues post-employment varies from unequal employment conditions, characterized by *ad hoc* system and poor salaries to absenteeism, out-of-date teacher knowledge & skills, lack of teacher competence and commitment.

In most government schools, a significant proportion of teachers are absent, while an even higher proportion among those present do not teach, but receive salaries because they are not accountable and responsible. It raises dropout rates among students. Learning outcomes are notoriously poor. Consequently, almost 50 per cent of students, whose parents can barely afford the fees, are enrolled in private schools where the quality of teaching-learning is also mostly sub-standard. Good private schools are simply unaffordable for ordinary people. Hence revolutionary changes in mind sets of teachers are required.

Figure-2 Initiatives to Taken for Effective Education



Pre-Service Teacher Training

Based on the recommendations of NEP–2020 on teacher education and training, a National Curriculum Framework for Teacher Education, NCFTE 2021 will be drafted to guide all teacher education, pre-service and in-service, of teachers working in academic, vocational & special education streams. The 4-year integrated B.Ed., the minimal degree qualification for schoolteachers, is conceived as a multidisciplinary and integrated dual-major bachelor's degree in Education as well as a specialized subject. The admission to this course shall be through suitable subject and aptitude tests conducted by the National Testing Agency (NTA).

All multidisciplinary Universities have been directed to set-up an education department and run B.Ed. programmes in collaboration with their other departments such as psychology, philosophy, sociology, neuroscience, languages, arts, music, history, literature, physical education, science, and mathematics. In addition to this they will also carry out cutting-edge research in various aspects of education to enhance the quality of their B.Ed. Programme. The B.Ed. degree will teach a range of knowledge content and pedagogy and include strong practicum training. The curriculum will also include effective techniques in pedagogy on foundational literacy and numeracy, multi-level teaching and evaluation, teaching children with disabilities, with special interests or talents, use of educational technology, and learner-centred and collaborative learning.

Present Teacher Training Institutions

The extreme challenge facing us is teacher training. Teachers need to have an understanding of the method in which this extremely creative curriculum has to be transacted. At the grass roots level, the quality of education leaves much to be desired. A large number of in-service teachers have no professional qualifications and are tasked with innumerable administrative and social responsibilities, leaving them with little time for hands-on teaching, let alone training.

The degrees of DIET, B.Ed., M.Ed. are being given by the private institutions without imparting proper training. The skills are never measured during the selection of teachers and this is the reason, the institutions take these courses casually and limit them to conducting final examination only. If we want the new education policy to succeed, we have to be careful to disrupt established norms. Every stakeholder at the state, district, sub-district, and block level has to take ownership of the new education policy. Even School and College Principals have to be trained in advance. Many of them even in the urban areas do not have the skills required for such changes. It is important to plan the mapping of resources and skillsets of teachers

before the policy is actually rolled out. Standalone workshops will not suffice. Consistent training will be needed.

Higher education is caught in a gripper movement. For one, there is a belief that markets can solve the problem through private players, which is leading to education as business, shutting the doors on those who cannot finance themselves, without regulation that would ensure quality.

India, with a population of about 1.35 billion, has nearly 1050 universities out of which some 360 are private and 39,000 colleges, most of these colleges being non-degree granting institutions affiliated to public universities. Its gross enrolment ratio (GER) is currently about 26 per cent and the proposal is to increase it to 50 per cent by 2035. While a good number of the institutions are excellent in particular the Indian Institutes of Technology, NITs and IIMs, the majority suffer from poor quality.

Access to Technology

The national education policy lays emphasis on leveraging the advantage of technology in making the youth future-ready but developing digital infrastructure such as digital classrooms, remote expertise-driven teaching models, audio, video tools to bridge gaps in physical teaching and laboratory infrastructure is a great challenge because the majority of the schools don't have a proper set-up to support these tools. Also, the cost associated with building digital infrastructure might not be affordable for all schools across the country. Moreover, in rural areas of the country where the Internet connectivity is nearly absent, deploying digital learning tools is very difficult. Hence, the government should work on improving the basic infrastructure that will support the digital infrastructure in all areas. The challenge for India will be regarding finance and the same is acknowledged in the policy also. The current public expenditure on education in India is about 4.4 per cent of Gross Domestic Product, well below the 6 per cent of GDP as recommended in the 1986 policy, and the present policy again aims to achieve that target.

Conclusion

India, with a population of about 1.35 billion, has nearly 800 universities out of which some 360 are private and 39,000 colleges, most of these colleges being non-degree granting institutions affiliated to public universities. Its Gross Enrolment Ratio is currently about 26 per cent and the proposal is to increase it to 50 per cent by 2035. While a good number of the institutions are excellent in particular the Indian Institutes of Technology, NITs and IIMs, the majority suffer from poor quality.

Thus, for successful implementation of national education policy, we must overcome all the execution challenges in a sustained manner for years to come. The motivation is to change the mindset of teachers, parents and students to make Indian learners global citizens. The policy envision in terms of curriculum revision, teacher-training, and equipping schools for ICT-enabled and assessment-driven evaluation over the next few years. For successful implementation it is essential to focus on upgrading the teaching skills, developing dedication among teachers to prepare the learners as per the present needs of the society. The government should also ensure that only the trained and skilled teachers should be appointed as teachers in all institutions at all levels with minimum fixed salary so that they can give their best efforts with true spirit of teaching.

References

1. Balachander, K.K. (1986). Higher Education in India: Quest for Equality and Equity, *Mainstream*.
2. British Council (2014). *Understanding India- The Future of Higher Education and Opportunities for International Cooperation*, British Council India.
3. Dweck, C S (2006). *Mindset: The New Psychology of Success*. New York, NY, US: Random House.
4. FICCI (2012). Higher Education in India: Twelfth Five Year Plan (2012-17) and beyond FICCI Higher Education Summit.
5. Kumar, Anuj and Ambrish, (2015). Higher Education: Growth, Challenges and Opportunities, *International Journal of Arts, Humanities and Management Studies*, Volume 01, No.2, February, 2015.
6. Nexus Novus (2013). Higher Education Opportunities in India, *http://nexusnovus.com/higher*-education opportunities-India, Jul 26, accessed on 30/07/2016.
7. Sharma, Sahil, and Sharma, Purnendu (2015). Indian Higher Education System: Challenges and Suggestions, *Electronic Journal for Inclusive Education*, Vol. 3, No. 4, , pp.3-4. ❑

Towards a Better Implementation of NEP through the Knowledge Center Initiative

Sanjay D Jain* and Vivek M Nanoti**

The National Education Policy (NEP) – 2020 mentions [page 3, NEP], "The aim must be for India to have an education system by 2040 that is second to none." As the education system of a country builds the foundation of its development, this aim can be rated as one of the best aims the country had since independence. Though NEP is the best concomitant step towards achieving this aim, the policy will face an uphill task in its implementation because of the strong grip of Macaulay's ideas on our education system. Though Macaulay's policy was intended mainly to serve the British interests, years of its continued influence effectively misled people into believing it as 'our' policy.

NEP promises to restore our glorious past by reviving our rich native education that existed before the British rule– education that developed us into a leading economy of the world in the pre-British era [Pitroda (2015), Tharoor (2016)]. However, a lot will depend on how the policy recommendations are implemented in letter and spirit at grass root levels. At present Macaulay's ideas have taken such deep roots in our psyche that the main hurdle in implementing NEP will be our own reluctance in accepting that deeper roots of better education existed in our country before Macaulay.

In order to serve the colonial interests of British rulers, Macaulay's policy constrained education to the rigid structures of marks, grades and degrees that encouraged practices like cramming and rote learning and discouraged original, creative and independent thinking. This led to a gradual deterioration of our education, particularly the higher education. Engineering education stands as a glaring example of this deterioration today as only about 15 per cent of the engineering institutes in the country are accredited; less than 20 per cent of our engineering graduates are employable; and about 50 per cent seats in engineering colleges have been remaining vacant in recent years.

Recently, we have taken a Knowledge Center Initiative (KCI) in our institute [Priyadarshini Institute of Engineering and Technology (PIET)] in an attempt to arrest this deterioration. It is an open, flexible and proactive initiative that facilitates natural and experiential learning based on the ignorance and curiosity of learners through a cafeteria approach that promises their enjoyment, employment, empowerment and enlightenment. The main focus of KCI is on 'uncovering' and 'discovering' the syllabi instead of 'covering' them and on learning for knowledge, skills and wisdom instead of marks, grades and degrees.

Under KCI students can learn any topic of their interest without any anxiety of exams and marks. It follows a simple methodology of arousing the motivation of learners and facilitating their learning through mentoring to accomplish the intended learning goals. The initiative made a remarkable impact in the last 5 years by benefitting large number of students and professionals from PIET as well as beyond it. Table-1 illustrates this growth.

Table-1: Growth of PIET KCI

Session	Status of KCI
2015-16	KCI taken in the Physics Department of PIET (Physics Knowledge Center)
2016 -17	KCI extended to all the First Year students and departments of PIET
2017-18	KCI extended to all the branches and students of all the years of PIET
2018 – 19	KCI extended to any interested learner within and beyond PIET
2019 – 20	Google classroom called 'Learning Center' developed for any interested learner within and beyond PIET

The impact of KCI is evident through the steady cumulative increase in the number of exhibitions, posters, visitors, learners, media reports, articles and papers published, lectures delivered and sessions

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conducted under KCI. These data are available in our published papers (included in Table-2) and also on our college website [http://www.piet.edu.in/knowledge_centre.php]. The vision document, extension proposal and the relevant papers/articles are available on the site, https://sites.google.com/site/sjainknowledgecentre/.

As the visits to the physical KC got reduced due to the recent corona pandemic, we made the learning material developed under KCI available on a Google Classroom named, 'Learning Center' (LC) to provide digital access to any interested learner. LC can be accessed by anyone with a valid gmail account. Any learner can join this classroom using the code, 'lmdrx6g' or by requesting for an invitation mail to join the center.

Our encouraging experiences provide us enough motivation and confidence to propose KCI as a grass root initiative that can facilitate a better implementation of NEP and can thus contribute significantly to India's aspiration towards a knowledge society. Being essentially unstructured, KCI can accommodate and implement NEP ideas in a much better way than our rigid structures of education can.

Secondly, initiatives like KCI can be taken in any educational institute or even in any organisation. Thus, if such initiatives are promoted across the country then NEP can be implemented in a much smoother and successful way compared to pushing the monly through the existing schools and colleges. Various aspects of the implementation of NEP through KCI are elaborated in the following sections. The concurrence of NEP ideas with KCI is brought out in Section II. Due to the strong concurrence of NEP and KCI ideas, many of the NEP ideas are already being implemented under KCI. These are elaborated in Section III. Section IV discusses the further scope for implementation and the concluding section highlights the effectiveness of KCI in implementing NEP ideas.

NEP and KCI : Concurrence of Ideas

Vision

The NEP's vision of transforming India into a knowledge society and making India a global knowledge superpower has also been addressed under KCI. The work undertaken with this vision has been published in our several research papers and articles. Table-2 includes the details of the major 10 publications among these.

Table 2: Published Papers/Articles based on KCI Vision that Concurs with the NEP Vision

Title of the Published Paper / Article	Publication Details
1. Transforming Engineering Education in India by Seeking Motivations from Bharat	Journal of Engineering Education Transformations, Vol. 33, No.1, July 2019, p. 22-34
2. Knowledge Center Initiative for Contributing to Catalyze the Transformation of Engineering Education in India	Journal of Engineering Education Transformations, Vol. 32 , No. 3, January 2019, p. 78 – 90
3. Knowledge Center as a Grass root Initiative for Making Engineering Education in India Meaningful	4thIEEE Inter. conf. on MITE, held at Madurai from 9th to 10 Dec., 2016.
4. Knowledge Center Initiative for Transforming India into a Knowledge Destination	3rd IEEE Inter. Conf. on MITE held at ACET, Amritsar, 1-2 Oct. 2015, p.52-57
5. Knowledge Center - A New Learning Paradigm for Engineering Education in India	3rd IEEE Inter. Conf. on MITE held at ACET, Amritsar, 1-2 Oct. 2015, p. 58-62
6. Enabling Knowledge Structures for Human Development in India	Inter. Conf. on knowledge management, IBS, Hyderabad, 18-19 April, 2013
7. Role of educational technologies in re-emergence of India as a knowledge society	IEEE Xplore India Conference (INDICON), 2012 7-9 Dec., P. 819 – 822
8. Education Beyond Marks and Degrees	Science Reporter, Vol. 54, No. 2, February 2017, p. 37-40
9. Natural Learning for a Knowledge Based India	Science Reporter, Vol. 53, No. 8, August 2016, p. 23-28
10. Of Science and Scientists Making India Great	Scientific India, Vol. 5, No. 2, March-April 2017, p. 13-15

The titles of the published papers/articles included in Table II bring forth the strong concurrence of vision of NEP with that of KCI. Though our work mainly pertained to transformation of engineering education, the initiative is equally applicable and extendable to all levels of education, in general, and to all streams of higher education, in particular.

Principles and Objectives

There is a strong concurrence between the objectives and principles of NEP and that of KCI. Our primary objective of learning for knowledge, skills and wisdom agrees closely with the NEP observation that the pursuit of knowledge (*Jnan*), wisdom (*Pragyaa*), and truth (*Satya*) was always considered in Indian thought and philosophy as the highest human goal [page 4, NEP]. The emphasis of NEP that pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, discussion-based, flexible, and, of course, enjoyable [page 3, NEP] is also well served in our cafeteria approach that promises enjoyment, employment, empowerment and enlightenment of learners. The particular emphasis of NEP on the development of the creative potential of each individual including social, ethical, and emotional capacities and dispositions [page 4, NEP] is properly ingrained in the KCI methodology of facilitating interest based learning.

In particular, the following principles of NEP [page 5-6, NEP] are in very close agreement with KCI.

- no hard separations between different steams / subjects
- multidisciplinarity and holistic learning;
- emphasis on conceptual understanding rather than rote learning and learning-for-exams;
- creativity and critical thinking to encourage logical decision-making and innovation;
- ethics and human & Constitutional values;
- life skills such as communication, cooperation, teamwork, and resilience;
- respect for diversity and the local context;
- full equity and inclusion;
- a rootedness and pride in India

NEP Ideas Already being Implemented under KCI

NEP lays emphasis on learning how to learn; learning about how to think critically and solve problems, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material in novel and changing fields [page 3, NEP]. KCI has been implementing these ideas under its aim of uncovering and discovering the syllabi. Many new experiments in this regard helped KC to evolve as a laboratory for research in education [2014]. Some of the ideas that evolved under KCI for improving the effectiveness of learning are as under.

- Learning through Stories
- Learning through Jokes
- Learning through Puzzles
- Learning through Applications - Knowledge for Career Edge
- Learning through Research
- Learning through Failures – Struggle Stories to Success Stories
- Learning by Doing
- Learning through Pictures / Sketches / Diagrams
- Learning through Quotations – Pearls in the Ocean of Wisdom
- Amazing Powers of Knowledge
- Discovering the Joy of Knowledge – Eureka Moments of Scientists
- Curiosity Corner – Knowledge Around You
- Seamless and Holistic Knowledge
- Wonderful and Exciting Knowledge
- Advancing Frontiers of Knowledge

Various learning resources are regularly developed under KCI on these themes. The resources are mainly in the form of posters, articles, research papers and demonstrations. They are regularly displayed in the form of exhibitions. Table-3 enlists the various exhibitions held so far and Table-4 includes the published articles and papers. Many of these resources have been uploaded on the LC for use by any interested learner.

Table 3 Exhibitions Developed under PIET KCI

Theme of Exhibition	Date of inauguration	No. of posters
International Year of light, 2015	28/1/2016	48
Beyond Marks and Degrees - Knowledge, Skills and Wisdom	28/7/2016	42
Education, Science and Engineering in a Gandhian Perspective	30/1/2018	57

Wonderful world of Science, Technology and Engineering	12/3/2018	42
Learning Motivations in Physics	27/7/2018	116
From India to Bharat – A Forward Journey	18/12/2018	45
Knowledge Center at a Glance	8/2/2019	32
MOIL Limited – A Historical Perspective	22/7/2019	25
Creative Writers of Hitavada	21/12/2019	27
Wonderful World of Nanotechnology	5/3/2020	51

Table 4 Articles / Papers published under KCI

Papers

[1] 'Knowledge Based reorientation of Engineering Physics', Journal for Research, May 2017, Vol. 3, Issue 3, p. 14-17

[2] 'Advancing Physics Learning Through Understanding Errors', IJPRET, vol. 2 (9), 2014, pp. 293-299

[3] 'Knowledge world of crystals- atoms in order', IJPRET, vol. 3 (3), 2014, pp. 26-45

[4] 'Teaching Laser', Journal of Research: 'The Bede Athenaeum', Vol, 3, issue 1, 2012, pp. Jain, 56-60

Articles in Magazines

[1] 'Sixty Years of Feynman's Prophesy', Science Reporter, Vol. 56, No. 12, December 2019, p. 30-33

[2] 'Periodic Table and Henry Moseley', Science Reporter, Vol. 56, No. 5, May 2019, p. 19-22

[3] 'The Man who Laid the Foundation of Lasers Hundred Years Back', Science Reporter, Vol. 54, No. 10, October 2017, p. 41-44

[4] 'Is the Tiger Burning Bright', Science Reporter, Vol. 54, No. 7, July 2017, p. 14-19 (published as a cover story)

[5] 'Seeing the World of Eye', Science Reporter, Vol. 53, No. 10, October 2016, p. 21-25

[6] 'Knowledge Center Presents Report "Mahatma Gandhi – Pioneer of the Science of Nonviolence', http://www.bemagazine.org/38654-2/ p. 1-20

[7] 'Wonder Pipes for Digital India - Optical Fibres', Science Reporter, Vol. 53, No. 2, Feb. 2016, pp. 34-37

[8] 'Story of seamless science and engineering', Science Reporter, Vol. 52, No. 10, Oct. 2015, pp. 14-19 (published as a cover story)

[9] 'Decoding the enigma called light', Science Reporter, Vol. 52, No. 5, May 2015, pp. 14-21 (published as a cover story)

[10] 'The story of crystals', Science Reporter, Vol. 51, No. 12, Dec. 2014, pp. 14-19 (published as a cover story)

[11] 'Story of semiconductors- how useless turned useful', Science Reporter, Vol. 51, No. 9, Sept. 2014, pp. 34-37

Articles Series

[1] Series of 25 articles published in the daily, 'Hitavada' on the eve of international year of physics – 2005; 10 of these articles are published in the bulletin of Indian Association of Physics Teachers in 2007

[2] Series of 10 articles published in the daily, 'Hitavada' on the eve of international year of light – 2015

Recent articles

S. No.	Title of the article	Newspaper	Date
1	Timeless wonders	Middle space, Hitavada	17 May 2019
2	Looking for a shade	Middle space, Hitavada	6 June 2019
3	Paradoxes	Middle space, Hitavada	5 July 2019
4	Rains reign our lives	Middle space, Hitavada	7 August 2019
5	Exam of Life	Middle space, Hitavada	20 August 2019
6	Moving in the realm of unknown	Middle space, Hitavada	17 September 2019
7	Appreciating Bharat	Middle space, Hitavada	22 September 2019
8	Run your own race	Middle space, Hitavada	28 September 2019
9	Pondering over the inevitable	Middle space, Hitavada	1 October 2019
10	U in the Universe	Middle space, Hitavada	12 October 2019
11	Last date of improvement	Middle space, Hitavada	18 October 2019
12	Side effects of excellence	Middle space, Hitavada	1November 2019

13	Happiness leads to humanity	Middle space, Hitavada	9 November 2019
14	Bitter truths – better truths	Middle space, Hitavada	22 November 2019
15	Learning to be proactive	Middle space, Hitavada	13 December 2019
16	The most complicated machine	Middle space, Hitavada	27 December 2019
17	Exploring the room at the bottom	Pastime, Hitavada	29 December 2019
18	Learning through jokes	Middle space, Hitavada	12 January 2020
19	Dream, hope and reality	Middle space, Hitavada	29 January 2020
20	Sportsmanship	Middle space, Hitavada	6 February 2020
21	Greatness of small deeds	Middle space, Hitavada	9 February 2020
22	Knowledge Pyramid	Middle space, Hitavada	16 February 2020
23	Common salt, uncommon knowledge	Middle space, Hitavada	13 March 2020
24	Live in resonance	Middle space, Hitavada	27 March 2020
25	Work from home	Middle space, Hitavada	5April 2020
26	Corona wisdom	Middle space, Hitavada	18 April 2020
27	Surgery and poetry	Creative Dimension Blog	28 April 2020
28	My experiments with education	Creative Dimension Blog	1 May 2020
29	Vision 2020 in corona perspective	Middle space, Hitavada	7 May 2020
30	Mothers learn and let learn naturally	Pastime, Hitavada	10 May 2020
31	Jain therapy for Covid 19	Lokmat Times	12 May 2020
32	Liking and Loving Learning	Middle space, Hitavada	17 May 2020
33	I don't mean to say	Middle space, Hitavada	28 May 2020
34	Making India Bharat Again	Middle space, Hitavada	16 June 2020
35	Unmasked	Oasis, Deccan Herald	19 June 2020
36	World as a corona laboratory	Creative Dimension Blog	20 June 2020
37	Learning through middles	Middle space, Hitavada	5 July 2020
38	From win-one to win-all	Middle space, Hitavada	23 July 2020
39	Who is to tell who is an animal!	Opinion page, Tribune	6 August 2020
40	Personification of courage	Middle space, Hitavada	1 September 2020
41	Jainism – the Science of Self	Website of Yong Jains of America	15 September 2020
42	Turning vegetarian	Middle space, Hitavada	1 October 2020
43	Can NEP help us forget Macaulay	Online news platform, 'Indian Observer Post'	5 October 2020
44	We must save other species to ensure the survival of human species	Online platform, 'counterview.org'	13 October 2020
45	A meeting of different type	Middle space, Hitavada	15 October 2020
46	Connecting to Engineering	Pastime, Hitavada	2 November 2020

These resources help arouse learning motivations of the KC visitors by igniting their curiosity, widening their learning horizons and developing their wisdom.The titles of these publications bring forth the vast diversity of learning motivations possible with KCI. They effectively address the emphasis laid by NEP on aspects such as Environmental education, Value-based education, Forest and wildlife conservation,

Scientific temper and Importance of 'doing what's right'. Table-5 includes a few specific examples of how different learning ideas are served by appropriate resources.

Table-5: Resources Created for Different Learning Ideas

Learning theme / idea	Learning resources
(i) Holistic Learning	Posters based on holistic and seamless aspects of learning are regularly developed and displayed under KCI. A compilation of these efforts was published in the form of an article in Science reporter. [Table IV, No (8) under Articles in magazines]. The article brought forth the holism in nature and the world of work through several examples.
(ii) Enjoyable Learning	Learning is made enjoyable under KCI through several interesting regular features like learning through stories, jokes, pictures, etc. The resources created are in the form of posters and articles.
(iii) Learning having rootedness and pride in India	An exhibition on the theme, 'From India to Bharat – A Forward Journey' has been developed under KCI with the following subthemes: 1. British Rule – An Era of De-development 2. Systematic Destruction of Education System of India 3.Knowledge Centers of Bharat 4.Scholars of Bharat 5. Inventions and Innovations Various posters about 'LokVidya', i.e., important vocational knowledge developed in India, have also been developed under KCI. A paper about how Engineering education in India can be transformed by seeking motivations from Bharat is published in an education journal (paper 1 in Table II) and a few relevant articles are published in dailies.

Those learning under KCI have full flexibility of learning so that they have the ability to choose their learning trajectories and programmes, and thereby choose their own paths in life according to their talents and interests, as envisaged in NEP [page 5]. Optimum student's involvement in learning is ensured through active learning methods like self-study, exploration and interactive discussions; there are no monologue lectures in KC.

Examples of learners who pursued their natural propensities to achieve excellence in their chosen fields are available on LC and also on http://www.piet.edu.in/knowledge_centre.php. Thus the ideas emphasized in NEP [page 3] such as interest based, inquiry-driven, discussion-based, interactive, creative and explorative learning are very well implemented in KCI. However, KCI doesn't restrict only to these ideas but keeps evolving newer ones for continual improvement. For example, recently we added the new themes, 'learning through middles' and 'learning from animals' to this list.

Further Scope for implementation

In addition to the implementation of many NEP ideas discussed in the last section, a lot of scope has also emerged for undertaking further work under KCI on the ideas envisioned in NEP. Table-6 enlists those NEP ideas which are consistent with KCI and thus can be effectively implemented.

Table 6: NEP Ideas Which are Consistent with KCI and can thus be Effectively Implemented

NEP idea	Remark about Implementation under KCI
Public and school libraries will be significantly expanded to build a culture of reading across the country. -- book clubs -- to facilitate and promote widespread reading.	KCI can promote this culture well
-- to facilitate multiple pathways to learning involving both formal and non-formal education modes --- to allow alternative models of education, --- Other models for schools will also be piloted	KCI can be one such effective mode / model.
Teaching and learning --- in a more interactive manner; questions will be encouraged --- more fun, creative, collaborative, and exploratory activities for students for deeper and more experiential learning. ---- hands-on learning, --- , story-telling-based pedagogy	KCI follows this methodology.

Those students that show particularly strong interests and capacities in a given realm must be encouraged to pursue that realm beyond the general school curriculum.	Interest based learning is the backbone of KCI. It also provides the required ambience for such learning
Teachers will aim to encourage students with singular interests and/or talents in the classroom by giving them supplementary enrichment material and guidance and encouragement.	KC is an appropriate place to get such material, guidance and encouragement
Faculty will have the capacity and training to be able to approach students not just as teachers, but also as mentors and guides.	There is no teacher in KC. Faculty is a mentor / guide / senior learner.
Faculty will be given the freedom to design their own curricular and pedagogical approaches ---- Empowering the faculty to conduct innovative teaching, research, and service --- a key motivator and enabler	This spirit is the foundation of KCI.
internships with local industry, businesses, artists, etc.,--research internships with faculty and researchers--so that students may actively engage with the practical side of their learning.	This spirit is in tune with KCI.

There is also a wide scope for future work related to NEP ideas like project/activity on 'The Languages of India', innovative methods of computational thinking, baglessand internship period for students, Indian Knowledge Systems and exposure to activities outside school through visits to places (KC can be the appropriate choice for such visits).

Conclusion

The encouraging experiences of our initiative motivate us to extend and expand it as a proactive grass root initiative for making the learning pursuits of our youth directional and purposeful. KCI may be developed in any educational institute as a compensatory mechanism to overcome the lacunae of the present education system. Administrative bodies like UGC and AICTE can also encourage institutes to develop such initiatives through appropriate policy reforms, strategies and support.

KCI may also be developed in any organisation. For example, such initiatives in industry may enroll only that number of learners, which they will employ after providing them the necessary knowledge and skills. Thus enrolled learner in such centers will not be passed or failed on the basis of some final exam but his / her employment will begin when the industry is convinced about the learner acquiring the required knowledge and skills. This will discourage the present practice of 'earn a degree and search for a job'. A convincing relevant example is the Hathkargha project launched by Mahakavi Pandit Bhuramal social cooperative Hathkargha training center, Dongargarh (MP), with the inspiration of Jain Aacharya Shree Vidyasagarji Maharaj. The project enables learning of the skill of handloom weaving by any interested learners without any cost and they start earning immediately after completing the training.

KCIs thus promise to pump a whip of fresh air in today's grim education scenario. As they can be launched on a large number of platforms and can attract youth due to their inherent freedom and flexibility, they can open the floodgates of knowledge, skills and wisdom to our demographically favourable young population. Thus they can multiply the opportunities for our aspiring youth by fostering innovative ideas of smooth career selection and can lead to a resonant matching between the interest spectrum of our youth and the development demands of our country that can truly usher us in an era of revolution. Such initiatives can also harness the rich variety of our natural and indigenous knowledge and skills and give us the confidence and determination of achieving back our glorious status of education that prevailed before the British rule.

References

1. *https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf*
2. Pitroda, Sam and Chanoff (2015), 'Dreaming Big: My Journey to Connect India', Penguin UK
3. Tharoor, Shashi (2016), An Era of Darkness: The British Empire in India, Aleph Book Company.
4. Jain, S D and Dethe, C G (2014). Knowledge Centers as Cllaboratories for Research in Education, IJPRET, 2 (9), 300-304
5. *http://www.vidyasagar.net/kundalpur-hathkargha-center-opening/* ❑

The Latitude for Maritime Education and Training to Mature under the Influence of National Education Policy—2020

Rajoo Balaji*

Shipping is a service industry and moves about 90 per cent of the global trade generating almost half a trillion US dollars in freight rates alone. India has always found a place amongst the top nations supplying human resources at Officer level (over 85000 officers in active employment) on board ships. The ratio of Ratings is 1.6 for every Officer employed and pushing at over 130000 (Sagar Unnati; Ministry of Shipping Dashboard). India has been in the top ten nations in meeting the overall manpower supply to the global shipping industry.

Apart from this share of about 9.35 per cent (DGS, India) to the global seafarer population of approximately 2 million, the presence of Indian professionals has been consistently increasing in the international middle and top shipping management circuits.

India has over 200 ports (Major/Minor; Private/ Government) and in the last FY20, over 700 million tonnes of cargo have been handled by these. About 95 per cent of the nation's trade volume (70 per cent by trade value) is done through maritime transport mode. India's prestigious Sagarmala Programme aims to modernise the ports with massive investments to the tune of over INR 1.4 trillion (IPA; IBEF Statistics).

Globally, many maritime nations assign an important space for Maritime Education and Training (MET). Most of the main Campuses of Maritime Training Institutes (MTI) are concentrated in North America (40.9 per cent), Asia (27.3 per cent), Europe (27.3 per cent) and a good number have been in existence for more than 100 years (Martid, 2019).The contribution and growth of the Maritime industry is entwined with India's plans for the future. It cannot be more emphasised that MET will play a key role in providing the skills and sense to the country's young workforce poised to carry the developmental efforts ahead.

MET: Indian Institutes

While India's maritime trade and legacy can be traced back to centuries, a formalised maritime training can be sighted only in the 1900s. The traceable transformation milestones are Training Ship Rahman, Training Ship Dufferin, Directorate of Marine Engineering Training (DMET), Training Ship Rajendra, Training Ship Chanakya and now a plethora of MTIs numbering between 160-170 exist. Almost all the MTIs focus on training manpower for ships. The legacy MTIs of DMET, T.S. Chanakya have been subsumed into Indian Maritime University (IMU). With over 15 MTIs affiliations in addition, IMU is the Nation's biggest body for MET.

In the last half/quarter of the 20th Century, training for port personnel was formulated and Institutes with the support of Ports and the Government appeared. The Indian Institute of Port Management (IIPM), National Institute of Port Management (NIPM) (currently both subsumed under IMU), trained port personnel and Administrative cadre in shipping/port management domains. Now many Institutes around the country offer UG and PG programmes for shore-side operations and management and the training ranging from Ports/Shipping/Logistics/International Trade management etc. IMU having internalised both the sea going and shore-based career training in its 6 Campuses (well-spaced along the West and Eastern coastline), is poised to play a significant role into integrating the NEP's vision into MET.

MET: Format Metamorphosis

Following the evolutionary trends of the European maritime nations, the concept of maritime training was to prepare an able male (now female aspirants are allowed) for the hardships of the sea. The elements of shipboard jobs were secondary and at times it was accepted that real training occurred on board when one was exposed to the act and scene. The apparently inseparable regimentation and the vocational (or trade) nature of the seagoing profession further explains why MET had traditionally been regulated by the Administrative arms of Transport and Shipping Ministries of the countries, rather than by the mainstream education departments.

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Another significant aspect is the heavily regulated nature of shipping. Through the ages of industrialisation as steel ships replaced wooden ships and engines and propellers replaced wind assisted sail ships, safety assumed predominance. Various International Conventions followed, regulating how the ships were built and operated.

A major effort towards maintaining the MET standards is the Standards of Training and Watch keeping (STCW) Convention by the International Maritime Organisation (IMO). The STCW lays down the Regulations and specifies expected Competencies (including methods of assessment) for all shipboard personnel at three cognisable levels of responsibilities (support, operational and management). The MET formats at any part of the globe is oriented towards satisfying the STCW and the universal recognition of the Certificates of Competencies (of seafarers) is ensured in a way. The Maritime domain, thus has an established Internationalisation, which the NEP-2020 points as a needed achievable for Higher Education (HE) Institutions.

Furthermore, the IMO publishes Model Courses prepared by domain experts (generally, professionals with sailing/academic experience). The Model Courses are validated and prescribed only as a guidance, but Administrations world over treat the content sacrosanct for inclusion in the curricula. Though this gives a basic standard, it also leads to complacency and evolution or updating of the syllabi get stunted.

An important element of the training format is the quantum of shipboard training (an extended internship) for Competency Certification. India has been no different but given the degree-desiring middle class, MET has managed to find an academic status.

While this has been holding true for the shipboard jobs, the shore-based professional training have tended to stay on traditional UG/PG level approaches. Unfortunately, benchmarking with similar international programmes and industry driven training need analyses (TNA) are found wanting for several of these standard programmes.

Juxtaposing NEP (2020) and MET

The NEP's impetus to education is aimed at India's global positioning 'in terms of economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation. 'The NEP-2020 recognizes the requirement of skilled workforce for keeping up with the galloping digital intelligence technologies as also on the need for multidisciplinary abilities spanning across to sciences and humanities. The ambitious Policy proposes to revamp all aspects and align with the aims of SDG4 (Quality Education: Sustainable Development Goal of UN).

Among the listed 22 fundamental principles in the NEP-2020, a few such as emphasis on conceptual understanding, focus of regular formative assessment and life skills are entwined well at higher education (HE) levels of MET formats. The NEP-2020 recognises cognitive, psychomotor and affective domains of Bloom's taxonomy (BT), which form the web of Outcome Based Education (OBE).

The teacher-requirement planning forecasting proposed can be extended to MET at HE levels. Development programmes and Career Management Progression (CMP) can be charted to attract employed professionals (sea going personnel) with aptitude and aspirations. The Continuous Professional Development (CPD) mentions about scope for pedagogical preparations based on Competency Based Training (CBT). This aligns well with the nature of training pattern being followed in MET for seagoing careers. Amongst the major problems faced by HE system the NEP lists, few areas are in agreement at various intensity levels considering the HE MTIs, as illustrated in Table-1.

A few points of Table-1 may be elaborated. The current seagoing-career curricula require the alignment of cognitive skills and learning outcomes. This could be a low hanging fruit (short to medium term achievable in 2 to 5 years) since the universal formats are oriented towards CBT. The career management of faculty needs a better format. IMU has tried to address this by providing teaching-experience based entries into Masters and PhD Programmes especially for sailing personnel opting for academic careers. Research in core maritime fields have been very low in the Indian context. Marine fields on Naval Architecture, Ocean engineering and marine sciences could show a better score. This is one area requiring attention and the engagement-intensities of universities like IMU will matter in the coming times. The regulatory mechanism for sea-

Table-1: Major Problems faced by HE System: MET Status

Less emphasis on development of cognitive skills and learning outcomes.	MET for seagoing career addresses this somewhat well since there are periodic revision mechanisms (e.g., STCW etc.) in effect.
Inadequate mechanisms for merit-based career management and progression of faculty and institutional leaders.	This is true for Faculty pool chosen from seagoing personnel.
Lesser emphasis on research at most universities and colleges and lack of peer-reviewed research funding.	Vocational perspective of the industry towards Maritime profession need to change
An ineffective regulatory system.	MET for sea-career has an intense regulatory mechanism in place.
Large affiliating universities resulting in low standards of undergraduate education.	Dilution of quality have been experienced only with MTIs having a narrow focus.

career MET has traditionally been controlled by the merchant shipping regulatory arm of the Ministry of Shipping, Directorate General of Shipping (DGS). India being a signatory to the STCW Convention, the STCW becomes the referral point for academic regulations integrated with the certification functions also. This format has been under strain largely due to the volumes.

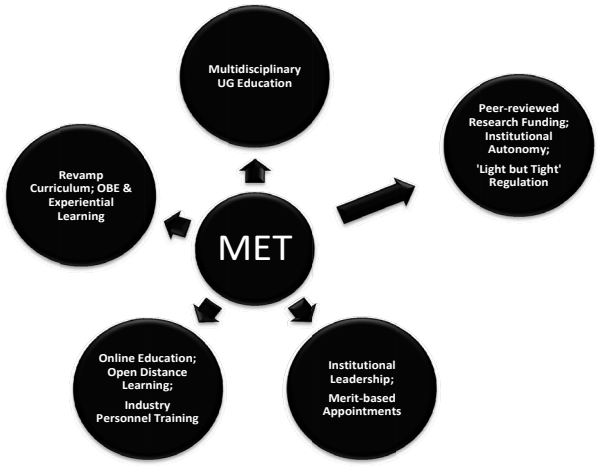
Though there are several Universities offering sea-career UG programmes, IMU has been the large Central University offering affiliation to a number of quality MTIs. This model must be nourished and the best way is to strengthen and broad base the curricula. The international standards having been ensured with the STCW, the generic skill sets for critical thinking and analytical skills have to be enhanced.

The UG programmes must enable multidisciplinary switches. For example, Marine Engineering syllabi can be built of Mechanical, Electrical, Electronic and Computing sciences clusters/layers, giving scope to Computer field etc. This will be a major spoke amongst the key changes being envisaged by the NEP.

Figure-1 depicts a few key changes that MET formats can adopt from NEP-2020. The satellite disc (distanced) reflects few changes which could be targeted in medium term range of 5-10 years, whereas the changes listed in other discs are achievable in short term (2-3 years). An important inclusion is the 'Industrial Personnel Training' which implies development and delivery of training for incumbent industry personnel.

In terms of holistic education, subject matter on environment, pollution, waste management etc., can be quite easily elevated to credit courses of all MET (sea-career and shore career), since existing curriculums have accommodated such topics. The flexibility of year-long PG Diploma/ Certification and Diploma with extra assimilation leading to Degrees can be refined. UG Programmes can provide exit and entry paths creatively (e.g., Lateral entry formats can be layered at extra levels). Digestible 4-5 year integrated programmes should be tailored with credit pools for Minors/Honours recognitions.

Figure-1: NEP's Key Changes to Current System: Targets for MET



The choice of courses under multidisciplinary approach can include programmes in related subjects (e.g., Maritime History) and relevant subjects (e.g., Education & Training). MTIs introducing courses in Humanities are not uncommon. The course on 'Intercultural Communications On-board Ships' by a Romanian University is an example (Ungureanu, 2013).

The NEP underlines the importance of optimal learning and support to students and brings pedagogy to be the keyword. The proposed notes include:

- Innovative curriculum, pedagogy, assessments
- Institutional Development Plan which includes the academic plans (e.g., Improvements in curriculum, quality of classroom transactions etc.)
- Support Centres to help socio-economically disadvantaged
- Online mode
- Global quality standards

MET has the advantage of being structured to international standards for the sea-career programmes and the curriculum has been under revisions with the periodic amendments to the STCW Convention (*ibid* comments on Internationalisation). Concept training with equipment, real-scenario experience with simulator training have been in vogue and discussed. Online training experience also has been on record (Stan, 2013).

A Central University such as IMU will have the correct leverage to translate the other proposed points. A comprehensive answer will rest with the curriculum and pedagogy approach.

Pedagogic Approaches to MET

The MET may be seen under two broad areas, one involving education and training for sea-careers and other for the shore-based careers. The shore-based training domains would include technological (e.g., Naval Architecture; Ocean Engineering), pure science (e.g.,Marine Sciences; Ocean Studies), management (e.g., Port Management, Logistics & Supply chain) domains. The first information needed for either would be the Training Need Analysis (TNA).

Given the nature of competency criteria prevailing in MET, a Constructivist approach can be proposed. The principles of Constructivism dwell on application of prior knowledge for new learning, learning processes strengthened with problem solving exercises and following the knowledge that is changing. Though a certain amount of conditioning is expected in the approach, the 'need for conditioning along a cognitive continuum' has been established with development of Bloom's Taxonomy (BT) etc., (Cooper, 2007).Further, it is opined that a comparison using BT would indicate that it is the 'degree of specificity' which differentiates vocational and academic approaches (Manuel, 2017).

The sea-career courses focusing on competencies will accommodate themselves better under OBE Models. An exemplar approach to the curriculum could be the adaptation of the Tier System proposed under the Body of Knowledge (BoK) for Global Maritime Professional (GMP)(IAMU, 2019).

The approach of the BoK is based on OBE. The first step involves ascertaining the knowledge-skills-attitude (KSA) required based on industry-external inputs (the exercise can be equated to a TNA). The BoK identifies 4 skill-sets:

1. **Foundational Knowledge & Skills:** Fundamental Sciences, Mathematics etc., would come under this.

   Broader sense: Underpinning Knowledge

2. **Academic Skills:** Problem solving, Critical thinking etc., will be addressed here.

   Broader sense: Research Skills

3. **Professional - Technical Skills:** This would encompass a wide range from STCW domains, Maritime Management (Maritime Logistics, Maritime Law/Policy/Governance etc.). The skill-sets include Risk assessments/management etc.

   Broader sense: Core-competence

4. **Professional - Soft Skills:** Environmental concerns, Leadership, team working, ethics, cultural diversity/awareness, etc., feature under this.

   Broader sense: Humanities part

The BoK Model then proceeds to build the framework on the Bloom's (revised) and Simpson's Taxonomies. Only one extension based on Cognitive Domain is taken up for a brief discussion herein.

Considering the Cognitive [C], Psychomotor [P] and Affective [A] domains, the original BT had recognised 6 progressive categories (Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation) for Cognitive domain. In the revised BT, the knowledge category 'embodied' both the Noun and Verb, but was split into two dimensions. Nouns

were changed to verbs at instances (e.g., Evaluate to Evaluating) and use of words as applicable to the intended outcomes (e.g., Understand to comprehend) were differentiated. This gave better strength to the objective-framing which included two aspects - the content and what is to be done to/with the content (Krathwohl, 2002). The revised categories of Cognitive domain changed to Remember, Understand, Apply, Analyse, Evaluate, Create.

For the Psycho motor domain, the Simpson's taxonomy has been applied. The BoK remarks that these were 'more appropriate to the maritime context as they are more and ragogical, relating to the development of skills in adults who may be taken out of their comfort zones'. The BoK then classifies the GMP under 4 Tiers and builds the action-verb matrices for each of the Tiers. The Tiers and the levels addressed are tabulated in Table 2.

Table-2: GMP-BoK Model for Academic Progression

GMP Tier A	STCW Operational Level Competencies	UG Level Degree
GMP Tier B	STCW Management Level Competencies	UG Level Degree (prerequisites: Tier A elements achieved)
GMP Tier C	STCW Management Level Competencies	PG Level Degree (prerequisites: Tier Belements achieved)
GMP Tier D	STCW Management Level Competencies	Doctoral Level Degree (prerequisites: Tier C elements achieved)

The requirements for 4 KSA skill-sets (for [C], [P], [A]) are then individually tabulated with the categories. The skeletal matrix is projected in Table 3 for Cognitive [C] domain only.

Exemplar explanation of Table 3 projections: The categories (Remembering etc.) are the minimum levels to be achieved for the identified Tier (See Table 1). To illustrate, for GMP Tier D, a minimum level of 'Creating' skill in Academic Research is required under Cognitive domain. It is to be noted, that this does not limit the other Tiers from elevating to higher levels of the domain. To illustrate, if a GMK Tier C Programme requires Mathematics at 'Evaluating' level, the same can be indicated.

In the projections of BoK, 6 (Foundational), 4 (Academic), 7 (Professional-Technical) and 11 (Professional-Soft) elements have been listed, but in Table 3 only one or two exemplar elements are projected (e.g., *Mathematics*, *Academic Research* etc., under column *KSA* in *italics*). As observed earlier, the BoK matrices are available for other two domains also.

The next step will be to identify the Intended Learning Outcomes (ILO) and generate matrices for each of the Domains for the respective KSA focus areas (e.g., Mathematics etc.). This will clearly define what the student is expected to do after the training exposure. In other words, the idea is to fit the TNA into the Domains so as to identify the intensity of the skill set level so that the objectives (outcomes) may be framed accordingly.

Table-3: Levels of Achievement (Cognitive Domain)

	Cognitive Domain[C]: Required Levels of Achievement					
KSA	**Remembering**	**Understanding**	**Applying**	**Analysing**	**Evaluating**	**Creating**
Foundational						
Mathematics	**A**	**A**	**A**			
Academic						
Academic Research	**A**	**A**	**A**	**B**	**C**	**D**
Professional-Technical						
STCW Competencies	**A**	**A**	**A**	**B**	**C**	**D**
Logistics & Supply chain	**A**	**A**	**B**	**C**	**C**	**D**
Professional-Soft						
Environmental awareness, Sustainability and Stewardship	**A**	**A**	**A**			

The BoK has guidance for these processes, which facilitates the OBE based course development. The BoK does not deliberate on framing the dissemination level objectives/outcomes, as a detailed teaching syllabus (DTS) and lesson plans would portray. Such exercises also have been kept out of the scope of this discussion also. Comprehensively, the progression would include what remains to be done i.e., identify the action verbs, develop the objectives and the DTS.

A possible variation applicable to the Table 3 matrix would bethat the KSA elements can include other/different subject-names also. This approach would be similar to a conventional OBE exercise and well-suited for shore-based career programmes.

The focal point of BoK has been the Learning Outcome related to MET Programmes. The advantage of the BoK is that it can be used for both seagoing and shore-based careers. For shore-based career Programmes (e.g., UG Degree in Logistics; MBA in Port Management etc.), few of the KSA elements will vary but they can be conveniently plugged in and the DTS built up. A DTS which is student-centric can then be laid out for any MET Programme. The OBE approaches underlined by NEP can be well addressed thus.

Other Approaches to MET

There are casual to serious surveys available on the factors affecting MET. These vary from often repeated Competency-skills, Communication, Human errors, Safety culture etc., to region/period specific 'Piracy and Armed Robbery' also (Basak, 2016). Competency-skills focussed MET formats (Sea-career) have relied on traditional and cognitive apprenticeship elements.

In the Instructional design, traditional apprenticeship would include coaching with models, whereas cognitive apprenticeship would require the student to articulate and explore the ideas with the teacher (Collins *et al*., 1991). The experience shared would have meaning only if the real-world (real job) context is embedded. This is possible if the teacher is an 'experienced' professional. Most MTIs have Faculty comprising of ex-seafarers or those in service serving as Visiting Faculty. The 'marine person' and 'marine experience' are ensured and what remains will be the 'marine ambience'.

This idea has also been subscribed by the Ship-in-Campus requirements of DGS and the Marine Simulators. Another version of this is the real, floating, training ship (expensive training model). India has experimented with these models. A few global Institutions use these models in combination.

In MET, referring to sea going career, one of the attempts to bridge what is implied in the cliché, 'pure mentation versus tool manipulation' (Resnick, 1987) is the format for simulator training and assessments. Simulator Systems with robust physical and behavioural realisms will bring better value to the trainee. The theoretical thinking will get tethered better to the 'tools' (i.e., the applications).

Figure-2a-2d show a modern Full Mission Engine Room Simulator (FMERS) used for training. The Simulator incorporates all the functionalities of all engine room machineries in a typical ship. The ERS can display the full range of typical Ship's Systems and operations can be done on touch screen mode. The Trainer has the control and options to

Figure-2a: FMERS: Equipment Operation

Figure-2b: FMERS: Operating Panel Displays

Figure-2b:FMERS: Trainee Terminals with Virtual Walkthrough modules

Figure-2d: FMERS: Familiarisation Class
(ERS & Trainee Terminals: Indian maritime University, Chennai Campus)

load a wide range of ship types/engines etc., as also a wide range of scenarios. Similar simulators are in use for all kinds of ship operations (e.g., Ship handling; Cargo handling; Navigation/Communication equipment handling etc.)

E-learning elements are already internalised in MET. Conceptually, at times, E-learning is seen as a 'new training learning mode' (Chen et al., 2017), but it has to be seen rather as a complementing mode.

Comparing the learning styles under 'Experiential Learning' viz., Diverging, Assimilating, Converging and Accommodating (Varghese, 2020), a good parallel can be drawn with the above discussed 'hands-on' methods with the Accommodating Style. Under Experiential Learning Theory, in a learning process, knowledge creation is through 'transformation of experience' (Varghese, 2020). In a competency training format and evaluations, a student experiences this (from pre sea training/experience to post sea experience/ training). The scope for Experiential Learning exists for conventional shore-based career Programmes also (e.g., MBA etc.) wherein industry professionals deliver segments of the syllabi. Role-play, Case study method and the industry-internships will also have space for the 'experience transfer'.

Conclusion: Pandemic Experience and Forward

The pandemic in a sense has paved few new paths for the education management. The experience realised by all generations will be a forceful driver for the way in which the future classrooms will look. The idea of blended learning will get traction and the pandemic period experience will be relied upon especially for the online format. The requirements for human resources (e.g., Faculty acclimatised to this mode etc.) and equipment resources (e.g., Instruments, Connectivity peripherals etc.) have been emerging as also the difficulties (e.g., connectivity issues in remote areas). The online mode, development of MOOCs, Learning Management Systems (LMS), Simulator usage etc., will gain momentum. Development of virtual laboratories and short-format learning modules with copious audio-visual content will emerge. Concept clearing will get preferred over rhetoric-content. Formative assessments will be part of most dissemination-assessment schemes.

Concerning Shipping, one of the key issues identified for 2020 is the Review of the STCW (ICS, 2020). With MET getting focus in India's Maritime Vision 2030 also, these exercises will be timely. The role of a Central University such as Indian Maritime University will be significant for not only aligning the educational designs but also in opening the maritime sector to more number of aspirants from all strata of the society.

References

1. Basak, S.K. (2016). A Framework on the Factors Affecting to Implement Maritime Education and Training in Educational Institutions: A Review of the Literature. MARTEC 2016. *Procedia Engineering*, 194, 345-350.
2. Chen, X., Bai, X., Xiao, X. (2017). The Application of E-Learning in Maritime Education and Training in China. *International Journal on Marine Navigation and Safety*

of Sea Transportation, Vol. 11, No.2, 349-354. Doi: 10.12716/1001.11.02.19.

3. Cooper, R. (2007). An investigation into constructivism within an outcomes based curriculum. *Issues in Educational Research*, 17(1), 15-39.

4. International Association of Maritime Universities (IAMU). (2019). *Global Maritime Professional Body of Knowledge*. Tokyo: International Association of Maritime Universities (IAMU). Pp., 5, 10, 11,

5. International Chamber of Shipping (ICS) (2020). ICS Annual Review.

6. Krathwohl, D.R. (2002). A Revision of Bloom's Taxonomy: A Review. In *Theory and Practice*, Vol. 41, No.4 (Autumn 2002). College of Education, The Ohio State University. 212-218.

7. Manuel, M.E. (2017). Vocational and academic approaches to Maritime Education and Training (MET): Trends, challenges and opportunities. *WMU Journal of Maritime Affairs*, 16, 473-483. Doi: 10/1007/s13437-017-0130-3.

8. MarTID (2019). Training Practices Report. Maritime Training Insights Database, World Maritime University.

9. GoI (2020). National Education Policy (NEP). 2020. Ministry of Human Resource and Development, Government of India. Pgs. 5, 18, 21, 22, 33, 34, 37.

10. Resnick, L.B. (1987). The 1987 Presidential Address: Learning in School and out. *Educational Researcher*, Vol. 16, No. 9, 13-20.

11. Stan, L.C. (2013). Online Teaching technique in Maritime Learning Process. 5th World Conference on Educational Series (WCES 2013). *Procedia-Social and Behavioural Sciences*, 116 (2014) 4517-4520.

12. Ungureanu, C. C. (2013). Intercultural education, a response to contemporary multilingual societies and a new challenge for Maritime Education and Training (MET) Institutions. 5th World Conference on Educational Series (WCES 2013). *Procedia-Social and Behavioural Sciences*, 116 (2014) 4260-4263. Doi: 10.1016/j. spspro.2014.01.928.

13. Varghese, M.A. (2020). Towards Best Teaching-Learning Practices in Indian Higher Education. *University News*, Vol. 57, No. 52), 3-11.

14. *https://www.dgshipping.gov.in/Content/OurStrength.aspx*. Last accessed 1800LT, 11 Oct. 20.

15. *http://www.shipmin.dashboard.nic.in/directorate_generalshiping.* Last accessed 2030LT, 11 Oct. 20.

16. *www.ipa.nic.in.* Last accessed 1845LT, 11 Oct. 20.

17. *https://www.ibef.org/industry/ports-india-shipping.aspx.* Last accessed 1800 IST, 11 Oct. 20. ❑

Form to Reform: The Shaping of National Resource Centre for Education

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The National Education Policy, 2020 in its introduction itself considers the teacher to be at the centre of the fundamental reforms in the education system, aimed at re-establishing them at all levels, by supporting and building the capacities in a tripolar approach of domain knowledge, research capacity and teaching capacity.

The policy, through Clause 13, aims at enabling motivated, energized, and capable faculty. For effective engagement of faculty, the NEP, 2020, through Clause 23 further talks about Technology Use and Integration. How, the explosive pace of technological development allied with the sheer creativity of tech-savvy teachers will impact education in multiple ways, aided by rich variety of educational software, to be made available for teachers at all levels and in all major Indian languages.

The Policy in a sense promises that the thrust of technological interventions will be for the purposes of improving teaching-learning and evaluation processes, supporting teacher preparation and professional development, enhancing educational access, and streamlining educational planning and management including processes related to admissions, attendance, assessments, etc.

The National Resource Centre for Education (NRCE) affirms the vision of the National Education Policy (NEP), 2020 with regard to teachers in higher education. While the policy does mention the increasing need for a digital infrastructure for knowledge sharing for school education teachers, there is no such platform exclusively envisioned for higher education. The NRCE includes all the key components which a repository for higher education teachers would require. It not only includes essential resources for enhancing subject knowledge, but also acquainting teachers in higher education with links on teaching-learning and research.

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The National Resource Centre for Education, established at the National Institute of Educational Planning and Administration (NIEPA), under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) is uniquely only one such centre under the flagship scheme. The NRCE is envisaged as an apex body with the vision of developing teachers who are able to enhance their potentials and push the frontiers of knowledge through research, networking and sharing of existing resources in the competitive knowledge world.

Before really looking at the NRCE more closely, it becomes interesting to look at what has happened in the case of technological integration in post-secondary education.

Hugh C Davis, Leslie Carr, Jessie MN Hey, Yvonne Howard, David Millard, Debra Morris, and Su White (2010) point to how the idea of creating digital learning resources with the express purpose of reuse has been around since the early 1990s. Through their description of the work of two initiatives, EdShare, an institutional educational repository for the University of Southampton, UK and the Language Box, a repository for the UK national language teaching community, they compare technology adoption between an institutional and a discipline-based culture.

Davis, Carr, Hey, Howard, Millard, Morris, and White (2010), from their experiences, consider a change in culture, further requiring an alignment of technical, community, and institutional factors, to be important, for a teaching and learning repository to succeed. Whereby, at the technical level, the software deployed must not only be straightforward and useable, but must also offer a valuable service to its users. That within the user community, it is important to build up the culture of sharing by removing barriers and demonstrating real benefits.

Finally stating the critical importance of institutional perspective even for a community repository, Davis, Carr, Hey, Howard, Millard, Morris, and White (2010) point to how clear institutional policies guide the behavior of all users and give them confidence to engage, with the assurance that

they will be supported by their institution if problems arise. That Technical, Community, and Institutional factors must be addressed together if teaching and learning repositories are to become accepted by staff and embedded into practice. That sharing teaching resources, and learning to open up content, is something that must be carefully fostered with practical software, consistent community engagement, and supportive institutional policies.

Farhana Sarker, Hugh Davis, Thanassis Tiropanis (2010) look at institutional repositories, which can mostly be utilized to address most of the Higher Education (HE) challenges. They classify institutional repositories into two types; one that *needs to be shared* and ones that *do not need to be shared*. Where the former includes the repositories need to be shared *outside of the institutions*, the latter includes the repositories which *do not need to be shared outside of the institutions*. This classification is considered as one which will help institutions to understand about requirement and will be easier to take decision for sharing information. Course information, Teaching and Learning materials, Academic staff and expertise information, Research staff and expertise information, Research output, Research project, Resource information and Accreditation data need to be shared outside of the institutions; whereas Student admission data, Student academic record (some selective data need to be made accessible), Staff facilities, Training information need not to be shared outside of the institutions to efficiently response to the higher education challenges.

Gajaraj Dhanarajan and Ishan Sudeera Abeywardena (2013) point to how the use of digital resources is seen as one way of addressing the dual challenges of quality and equity. How open educational resources (OER), free of licensing encumbrances, hold the promise of equitable access to knowledge and learning, realizing the full potential is possible only by acquiring: (i) greater knowledge about OER, (ii) the skills to effectively use OER and (iii) policy provisions to support its establishment in the continent's higher education milieu.

Dhanarajan and Abeywardena (2013) point to how open educational resources are increasingly being promoted by enthusiasts as a solution, amongst many others, to overcome the challenges of access, quality and cost in providing or participating in higher education, all over the world. Whilst in many parts of the developed world cost has often been cited as a reason to seriously consider OER as an alternative to expensive textbooks, skyrocketing tuition fees and inflexible learning opportunities within conventional systems, in the developing world inequitable access to learning, especially at the tertiary level — both formal and non-formal — has been presented as an argument to buttress the case. Conceiving of OER purely in terms of access, cost and quality is perhaps limiting, as there are other more profound reasons to assert a place for OER in higher education.

Elaborating on the long history of the Open Access movement having a long history, Davis, Carr, Hey, Howard, Millard, Morris, and White (2010) point to how it pioneered with a Physics community archive called arXiv4, which soon expanded its remit into related subjects, containing more than half a million research articles by 2008.

Davis, Carr, Hey, Howard, Millard, Morris, and White (2010) also point to global initiatives supporting teaching and learning, such as the Cape Town Open Education Declaration, called forfree, adaptable learning materials; MIT's Open Courseware, started in 2009, showcasing teaching in the form of courses and 1,890 courses on view, its Open Course-Ware Consortium becoming a collaboration of more than 200higher education institutions and associated organizations from around the world creating a body of open educational content using a shared model.

Davis, Carr, Hey, Howard, Millard, Morris, and White (2010) mention the Open University, with its Open Learn service, which in April 2008,reached its target to have 5,400 learning hours of content in the Learning Space and 8,100 hours in the LabSpace, which allows students to reuse and remix materials. Communities are also represented by established resources such as SMETE6 in the US. The SMETE Open Federation was formed to promote the teaching and learning of science, mathematics, engineering, and technology at all levels and is aimed at both students and teachers.

This shares common aspects with our endeavors, since its variety of resources is not focused on whole courses.

In the way Dhanarajan and Abeywardena (2013) see it, even though ideas relating to OER have been in circulation, globally, developments in the poorer Asian nations have been slow. Some examples of OER activity in the formal academic sector, described by them include: India's NPTEL (National Programme

on Technology Enhanced Learning), the efforts by a consortium of the Indian Institutes of Technology; Beijing Open University's non formal educational courses; formal degree programmes at the Virtual University of Pakistan; South Korea's provision of employment-related training programmes; Vietnam's efforts at producing translated versions of academic texts as open textbooks; and formative efforts by Malaysia's Wawasan Open University.

In the non-formal sector, Dhanarajan and Abeywardena (2013) mention Indonesia's Open University, aimed at building a community of teachers to share learning resources through its teacher education forum; the ICRISAT (International Crops Research Institute for the Semi-Arid Tropics), an international development agency in India, known for creating a suite of learning objects on agriculture and climate sciences, and made it available to farmers, extension workers and academics as OER.

Dhanarajan and Abeywardena (2013) do however also point to how technological innovations and progress, new agendas have become part and parcel of OER dialogues with massive open online courses, or MOOCs, which have confused the open space for consumers and academics alike. And away from the once considered straightforward purpose for OER, meant to be used for education, not necessarily for academic credit, which is no longer the case.

Making a case for in the context of developing Asia, Dhanarajan and Abeywardena (2013)state that it may be useful to promote OER with an unambiguous clarity of purpose, such as that OER improves cost-free access to up-to-date and current information relating to content, reduces the cost of curriculum transformation, assists in designing employment-relevant curriculum, supports flexible ways of delivering curriculum and facilitates inter-institutional collaboration and co-operation in content development and sharing.

What thus emerges is how there has been great progress as far as open access resources are concerned. However, with so many varied resources available, it often becomes difficult to fully distinguish the exact resources required for a teacher, or a student, or any other higher education stakeholder for that matter. Keeping some of these developments in mind, the following section elaborates on the National Resource Centre for Education (NRCE), devoted to teachers in higher education in India. The following section looks at some of the specific opportunities that the NRCE provides for a teacher in higher education.

An Exclusive Repository: For, By and Of the Teachers in Higher Education

While several OER platforms exist in Indian higher education, namely Swayam, National Digital Library +e-PG Pathshala+ Shodhganga; e-Shodh Sindhu; eGyanKosh, etc., the NRCE is specifically concerning with higher education teachers.

The Mission of the National Resource Centre for Education is to develop a common repository of knowledge resources. With the thrust firmly placed on enabling equal opportunity for all teachers in higher education. Which in turn will help build an inclusive environment in higher education.

Among some of the key objectives of the NRCE include: developing a national repository of all resources for the use of teachers in higher education; developing the functional capabilities of teachers through the use of knowledge resources; enhancing students overall development which advanced capabilities of teachers would help to achieve; developing a network of teachers in higher education in India (and abroad); developing the academic, administrative, ICT, teaching, research and social capabilities of teachers; compiling a list of experts in subjects and specialized field.

The approach of the NRCE is to assemble as well as create new resources. Keeping in mind the key objectives, it includes four key components: assembling Subject-wise Resources, Research Resources, Teaching- Learning Resources, as well as trying to create a room for innovation in higher education, for example, Student Satisfaction Survey.

In order to implement the mega plan and fulfilling the vision of the NRCE, an incremental approach was adopted: through committees of advisory, legal and IT support; involving the stakeholders, i.e. higher education teachers from all over India, through rigorous participative workshops, which have evolved from preparatory and tier one stages to stages of finalization and authentication.

As far as subject-wise resources are concerned, the NRCE has a target of ten subjects in the first phase, namely, four key social science subjects of Economics, History, Political Science and Sociology,

four key science subjects of Chemistry, Life Science, Mathematics and Physics, apart from the subjects of Economics and Management.

The first phase of the NRCE is complete with all ten subjects getting populated on the website. Despite the pandemic posing its share of challenges, the NRCE has swiftly transitioned into and successfully conducted virtual workshops to finalize, and curate the resources of the remaining subjects, which are expected shortly. Apart from this, the website already includes Research Resources, Teaching- Learning Resources. In times of resources overlap, and issues of copyright, the aim of the centre has been to ensure that only authentic and open resource links find their way to the website. The NRCE is a dynamic portal, and will continue to march on till the target of all subjects is completed.

One Stop Shop in Times of a Pandemic

The COVID-19 pandemic has altered the very basic mode of instruction. As far as higher education is concerned, where online teaching was considered as one part of blended learning, it has become the mainstay. A teacher in a higher education institution has to not only ensure they reach out to their students, who too are confined to their homes, some living in the remotest parts of the country, some not even having the basic desktop, smart phone, internet connectivity or bandwidth, but also that the teaching-learning process is not impeded due to lack of resources. Apart from teaching, to fulfill requirements of the academic calendar, the teacher in higher education also has to continue to pursue their own research. Thus, it becomes even more pertinent such a teacher is equipped adequately with online resources, to continue to enhance their academic development, through updated domain knowledge, be abreast with evolving teaching-learning practices and exploring research opportunities.

The situation has made the role of the NRCE more significant. With no access to library facilities, the platform can be truly useful in enabling teachers in higher education to access useful open access links pertaining to the teaching-learning process, their subject, as well as for pursuing their research.

The National Resource Centre for Education (NRCE) could not have evolved at a possibly more opportune moment. The humble beginnings of the centre was never meant to replace the resources available at the disposal of the teacher in higher education in face-to-face learning, but complement it.

Through its various endeavours, and remaining true to Gandhi's Talisman, the NRCE has aimed at ensuring that it reaches out to the teacher in the most remotest corner of the country. The NRCE is also making an effort through its dissemination webinars, to reach the unreached teachers of higher education in India.

A great leveler thus, the NRCE has indeed evolved as a platform for enhancing the capability and networking and providing a sectoral understanding for all teachers in higher education, by calling for a change in culture of sharing resources, aligning technical, community, and institutional factors and having equity and quality as its core. The NRCE can be accessed on : http://www.nrce.niepa.ac.in/

References

1. Davis, Hugh C, et. al. (2010). Bootstrapping a Culture of Sharing to Facilitate Open Educational Resources; IEEE *Transactions on Learning Technologies*, Vol. 3, No. 2, April-June; 96-109.
2. Dhanarajan, Gajaraj and Abeywardena, Ishan Sudeera. (2013). *Higher Education and Open Educational Resources in Asia: An Overview*, in Gajaraj Dhanarajan and David Porter eds. Open Educational Resources: An Asian Perspective; Commonwealth of Learning and OER Asia.
3. Sarker, Farhana, Davis, and Hughand Tiropanis, Thanassis. (2010). The Role of Institutional Repositories in Addressing Higher Education Challenges; The Second International Workshop on *Semantic Web Application in Higher Education*, University of Southampton, UK *(https://www.researchgate.net/profile/Hugh_Davis2/publication/47784873_The_Role_of_Institutional_Repositories_in_addressing_Higher_Education_Challenges/links/0912f513dfa662f2d9000000.pdf)* accessed on 30.08.2020.
4. Government of India (2020). National Education Policy, 2020 Ministry of Human Resource Development, Government of India. *https://www.mhrd.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf*

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Teacher Education in India and National Education Policy—2020

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The quality of education depends upon the quality of teachers and the quality of teachers depends upon the training they have received. No education program can be successful without proper education of the teachers. In the words of Prof. Hamayun Kabir, "Without good teachers even the best of systems is bound to fail. With good teachers, even the defects of a system can be largely overcome" (Walia, 1990). In the same vein, V S Mathur opines, "No system of education, no syllabus, no methodology and no text book can rise above the level of teachers. If a nation wants quality education, it must have quality teachers" (Dhillon, 2010). The need is to provide the best possible professional education to teachers so that they can contribute in raising the overall standard of education. For this purpose, the teacher education programs must be strengthened. These should focus on every aspect of the would-be teacher's personality. This should be done in an organized manner by the institutions especially created for the purpose to train those who have chosen teaching as their life-long profession.

Historical Perspective

Systematic and organized training of teachers started in India with the opening of teacher training institutes by Danish missionaries. The first normal school was set up at Serampore. The presidencies of Madras, Calcutta and Bombay established similar type of institutions in the third decade of the 19th century. In Madras, the Central School for Teacher Training was established in 1826. Woods' Despatch of 1854 recommended the establishment of training schools for teachers in each presidency of India. Stanley's Despatch of 1859 recommended salary grant to only those schools that have trained teachers. In 1881-82, there were 106 normal teacher training schools in India with the pupil-teacher strength of 3,886. However, these schools were meant for the training of elementary school teachers. For the training of secondary school teachers, there were only two colleges during this period viz. Government Normal School, Madras and Lahore Training College.

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In the pre-independence era, various commissions and resolutions served the cause of Teacher Education. In 1882, the Hunter Commission recommended the establishment of normal schools throughout the country. As a result in the last decade of the 19th century six teacher training colleges were established at Madras, Lahore, Rajahmundry, Kurseong, Jabalpur and Allahabad. It also led to establishment of 50 training schools for secondary teachers in India. Government Resolution of 1904 recommended highly qualified and trained staff for training colleges. It further recommended one year training course for graduates leading to the degree and two year training course for undergraduates and others leading to a certificate course. Calcutta University Commission (1916-17) emphasized research in the field of education and the establishment Departments of Education in universities. In 1929, Hartog Committee recommended refresher courses for primary teachers.

As a result of various initiatives, at the time of independence in 1947, there were three types of teacher training institutes in India:

Normal Schools or Primary Training Schools: These schools were meant for training of primary school teachers. The eligibility condition was a pass in middle school examination.

Secondary Training Schools: These schools provided training to teachers of middle schools. The eligibility condition for these training schools was matriculation.

Training College: These colleges provided training to teachers of High Schools. The eligibility condition for these colleges was graduation.

In Post-Independence era, the Government of India established various committees and commissions to look after various aspects of education including Teacher Education. Secondary Education Commission (1952-53) recommended that there should be only two types of Teacher Training Institutes. First, there should be Teacher Training Institutes for school leaving students who have obtained school leaving higher secondary certificate. For them the duration of training will be two years.

These secondary grade teacher training institutes will be under the control of separate Board constituted for this purpose. Secondly, for graduates, the duration of training will be one academic year. It may be extended as a long term program to two academic years. These institutions should be recognized by and affiliated to the universities which would grant the degrees. The training colleges should also arrange professional conferences, refresher courses, short intensive courses and practical training in workshops as a normal part of their work.

Kothari Education Commission (1964-66) opines, "A strong program of professional education of teachers is essential for the qualitative improvement of education. Investment in teacher education can yield very rich dividends because the financial resources required are small when measured against the resulting improvements in the education of millions" (Dhillon, 2010). It recommended the removing of the isolation of the teacher training institutes and also emphasized in-service training of the teachers. National Policy on Education – 1968 spoke about the academic freedom of the teachers to pursue and publish research. It also talked about their freedom to speak and write about significant national and international issues. The Government of India established National Council of Teacher Education in 1973 to coordinate the standards of Teacher Education in the whole country and to advise the Government on matters related to Teacher Education. It paved the way for restructuring of Teacher Education in the country. It emphasized the continuity between the pre-service and in-service teacher education. It would enable the mobility of the teachers both horizontally and vertically. It also recommended that the annual system should be replaced by semester system. About evaluation it recommended continuous evaluation. For this purpose, comprehensive information regarding the growth and development of the teacher-trainee should be collected. Both external and internal evaluation may continue for some time but the goal should be to make it completely internal. National Policy on Education – 1986 made detailed recommendations regarding the curriculum, pedagogy, evaluation and service conditions of teachers. It also talked about the code of professional ethics for teachers. It recommended the phasing out of sub-standard institutions of Teacher Education. An important recommendation of NPE-1986 was the opening of DIETs to organize pre-service and in-service courses for elementary school teachers and for the personnel working in non-formal and adult education. It also talked about the up-gradation of selected teacher training colleges to complement the work of SCERTs. It emphasized the networking between the institutions of Teacher Education and the University Departments of Education.

The Present Scenario

At present there are more than 10,000 teacher training educational institutions. It is felt that these institutions are not making serious efforts to produce quality teachers. Rather these have just become degree selling shops. These sub-standard institutions are becoming a hindrance in the growth of excellence and innovation in the field of Teacher Education. There is a dire need to revitalize the whole Teacher Education sector so that its standards can be raised. The need is "to restore integrity, credibility, efficacy and high quality to the teacher education system" (NPE, 2020). In order to do so, a stern regulatory mechanism is required so that strong action can be taken against substandard and dysfunctional Teacher Education institutions. Only those institutions which are academically sound, multidisciplinary in nature and are ready to offer Four Year Integrated Teacher Education Courses should be allowed to operate in this field.

A Peep into the Future

After a long gap of 34 years Ministry of Human Resource Development, Government of India came out with National Education Policy – 2020. This policy aims to create a pool of school teachers for the next generation. The policy visualizes that these teachers will have multidisciplinary perspective and should be grounded in Indian values, ethos, languages and culture. At the same time they are expected to be aware of what is going on at the global level in various aspects of education and pedagogy.

Keeping in line with the multidisciplinary approach to Higher Education, National Education Policy – 2020 envisages Teacher Education degrees and diplomas should be conducted in multidisciplinary institutions. As a result, multidisciplinary colleges will be encouraged to establish Departments of Education and be allowed to run teacher training courses. These colleges will also conduct research in the various aspects of pedagogy in collaboration with other departments such as philosophy, psychology, sociology, languages, history, science

and mathematics etc. The existing Teacher Education Institutions will be required to convert themselves into multidisciplinary educational institutions by 2030. These will also offer Four Year Integrated BA B.Ed. and B.Sc. B.Ed. Courses.

National Education Policy – 2020 proposes that minimum educational qualification for becoming a school teacher will be a Four Year Integrated BA B.Ed. or B.Sc. B.Ed Course. This Four Year Integrated Program will be a dual degree program in Education as well as specialized subjects such as Language, History, Music, Chemistry, Physics, Botany, Zoology, Economics, Political Science, Geography etc. After the completion of this course, the pupil-teacher is expected to become well versed not only in pedagogy but also in content subjects.

Another recommendation of NPE – 2020 is that the colleges offering Four Year Integrated Courses will also be allowed to run Two Year B. Ed Course for those students who have completed graduation. Likewise, these institutions can also offer One Year B. Ed. Course to those students who have completed a Four Year Degree Course in a specialized subject. In order to maintain the desired level of standard, the Teacher Education Institutions must have the required faculty in the field of education, related areas and content subjects. These Teacher Education Institutions must have a network of schools in government, government aided and private sector where the pupil-teachers can be sent for teaching practice. These Teacher Education Institutions must develop a mechanism of involving its students in community service, adult education and vocational education. In order to maintain a uniform standard in Teacher Education Institutions across India, it is proposed that admission to these institutions should be done through a national level test conducted by a National Testing Agency. It should be aptitude based as well as subject based taking into consideration the various types of diversities existing in the country.

About research in the field of education, NPE–2020 gives clear guidelines. It makes it mandatory for all Ph.D. entrants to undertake a credit based course in teaching, education, pedagogy and writing. The researchers should be well exposed to pedagogical practices, curriculum design, evaluation system and communication. It is expected that most of these research scholars will ultimately join the teaching profession. That is why all the Ph.D. scholars are required to spend a specific number of hours in actual teaching though teaching assistantship and other means.

NPE–2020 also talks about the in-service professional development of college and university teachers. For this purpose, the existing institutional arrangements and ongoing initiatives can be used. It proposes to encourage the use of technology platforms such as SWAYAM and DIKSHA for online training of teachers. These platforms will enable the authorities concerned to impart standardized training programs to a large number of teachers in short period of time. NPE – 2020 also proposes to establish a National Mission for Mentoring. It will be a pool of senior and retired faculty members who are willing to impart short and long term mentoring and professional support to university and college teachers. It will also include those who have the ability to teach in Indian languages.

The Grey Areas

No doubt, National Education Policy – 2020 has come up after a long period and after thorough deliberations. Even then, there are certain areas where the policy either silent or ambivalent. It leaves the following points for the educationists to ponder over:

1. National Education Policy - 2020 talks about structural changes in Teacher Education i.e. from Two Year Teacher Training Course to Four Year Integrated Course. But it does not offer a new vision or objective of Teacher Education.
2. The policy enlists in detail about what is to be done but it is silent about the way it is to be executed. It does not list a clear cut time frame for its implementation.
3. The policy does not talk about the security, service conditions, rights and privileges of the teaching and non-teaching staff working in the institutions of Teacher Education.
4. The policy proposes that BA B. Ed. and B. Sc. B. Ed. Courses will be integrated courses of four year duration and will be run only in multi-disciplinary institutions. The policy does not talk about the huge infrastructure built for running two year B. Ed. Courses. What will happen to it? Similarly, the policy is silent about the fate of teaching and non-teaching staff working in existing Teacher Education Institutions running two year B. Ed. Courses.

5. The policy encourages the use of technology platforms such as SWAYAM and DIKSHA for online training of teachers. But in India, there are many areas where there is no internet connectivity or where the signal quality is very poor. This may prove a great impediment in the online training of teachers.

6. Liberal Arts approach recommended in this policy is an American model. Except in UK most of the European Universities have not taken this formula in a serious manner. Also, the world class universities in East Asia especially in Japan, Korea, Taiwan, Hong Kong, Singapore, Philippines or China have not taken this Liberal Arts approach (Jayaprasad, 2019). It may not be successful in the Indian Educational context.

7. The policy proposes that only Four Year Integrated B.Ed. will be the minimum qualification for being a school teacher by 2030. It will restrict the entry of those into the teaching profession who decide their career goal after graduation. It would have been better had the aspiring teacher been given the opportunity to enter into this profession either after senior secondary or after graduation.

Summing Up

In spite of the various grey areas, the National Education Policy–2020 is a big leap into the future. It gives high priority to Teacher Education and recommends that the teachers must be provided with the best possible professional training to enable them to raise the standard of education. It focuses on the core issues concerning Teacher Education in India and aims for the development of full human potential and establishment of an equitable and just society. If properly implemented, it will lead to quality education, economic growth, social justice and equality. Demographically, India is the youngest country of the world with more than 50% of its population below 25 years of age. Only high quality dedicated and professional teachers will enable this young population to be competitive at the global level and be productive members of society contributing to its economic and social growth.

References

1. Dhillon, Khushwinder Kaur, Sharma, Kamlesh and Khanna, Raj Kumar. (2010). *Emerging Trends in Indian Education.* Patiala: Twenty First Century Publications.
2. Chinara, Benudhar (2019). Teacher Education in the Draft National Education Policy – 2019: Some Professional Concerns. *University News*. Vol. 57, No. 32.
3. Goel, Chhaya and Devraj Goel. (2019). Indian Education Rejuvenation. *University News*. Vol. 57, No. 29.
4. Gwal, A K and Verma. V K (2019). Review of Draft National Education Policy – 2019: Some Suggestive Measures for New Education Policy. *University News*. Vol. 57, No. 42.
5. Jayaprasad, K (2019). The Draft Education Policy- 2019: Expectations and Concerns. *University News*. Vol. 57, No. 31.
6. *National Education Policy – 2020*. Government of India: Ministry of Human Resource Development.
7. Walia, J. S. (1990). *Modern Indian Education and its Problems.* Jalandhar City: Paul Publishers. ❑

Weekly E- Essay Series of Scholarly Articles on Reimagining Indian Universities

A 'Weekly E-Essay Series of Scholarly Articles on 'Reimagining Indian Universities' was launched on AIU Website on 15th May, 2020 as a part of the change which AIU seeks to bring about in the academics in this day and age of COVID-19. The essays scheduled for release in this series are in a broad range of fields covering a variety of topics pertinent to 'Reimagining Indian Universities' received from distinguished experts and authorities in the area of Indian higher education included in the Book 'Reimagining Indian Universities' edited by Dr. Ms.Pankaj Mittal and Dr Sistla Rama Devi Pani. In the series, every week one scholarly article written by an erudite scholar of Indian academia is being released on the AIU Website. The series was initiated with the essay of Prof Bhushan Patwardhan, Vice Chairman, University Grants Commission, India on 15th May, 2020.

The essays are unique, enlightening and inspirational. Those who are interested in reading these essays may browse AIU Website: www.aiu. ac.in. ❑

Implementation Strategies for Integrated B.Ed. Programme in National Education Policy—2020

Bhalchandra Balkrishna Bhave*

This National Education Policy–2020 is the first education policy of the 21st Century and aims to address the many growing developmental imperatives of our country. This Policy proposes the revision and revamping of all aspects of the education structure, including its regulation and governance, to create a new system that is aligned with the aspirational goals of 21st Century education. The teacher must be at the center of the fundamental reforms in the education system. The new education policy must help re-establish teachers, at all levels, as the most respected and essential members of our society, because they truly shape our next generation of citizens. It must do everything to empower teachers and help them to do their job as effectively as possible. The new education policy must help recruit the very best and brightest to enter the teaching profession at all levels, by ensuring livelihood, respect, dignity, and autonomy, while also instilling in the system basic methods of quality control and accountability.

Teachers truly shape the future of our children - and, therefore, the future of our nation. It is because of this noblest role that the teacher in India was the most respected member of society. Only the very best and most learned became teachers. Society gave teachers, or gurus, what they needed to pass on their knowledge, skills, and ethics optimally to students. The quality of teacher education, recruitment, deployment, service conditions, and empowerment of teachers is not where it should be, and consequently the quality and motivation of teachers does not reach the desired standards. The high respect for teachers and the high status of the teaching profession must be restored so as to inspire the best to enter the teaching profession. The motivation and empowerment of teachers is required to ensure the best possible future for our children and our nation. The article is against this background.

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Four Year Integrated B.Sc., B.Ed. and B.A., B.Ed. Programme

The Four-year integrated programme in Education – B.Sc., B.Ed. and B.A., B.Ed. as recommended in NEP–2020 aims at integrating the general studies comprising three-year Liberal Science - B.Sc. and Liberal Arts - B.A. on the one hand and the Professional Studies B.Ed. comprising foundation of education, pedagogy of school subjects and practicum related to tasks and functions of a school teacher on other hand. It maintains a balance between theory and practice, and coherence and integration among the components of the programme, representing a wide knowledge base of a secondary school teacher. During the programme, the student-teacher shall be prepared for teaching up to class ten only but they shall automatically become eligible for teaching at senior/ higher secondary stage after they acquire post-graduation degree in a relevant subject.

Objectives of the Integrated Four-Year B.Ed. Course are to enable the student teacher to. . . .

i. to promote capabilities for inculcating national values and goals as mentioned in the constitution.
ii. to act as agents of modernization and social change.
iii. to promote social cohesion, international understanding & protection of human rights & right of the child.
iv. to acquire competencies and skills needed for teacher.
v. to use competencies and skills needed for becoming an effective teacher.
vi. to become competent and committed teacher.
vii. to be sensitive about emerging issues such as environment, population gender equality, etc.
viii. to inculcate rational thinking and scientific temper among the students.
ix. to develop critical awareness about the social realities among the students.
x. to use managerial and organization skills.
xi. To use innovative teaching methods.

Implementation Strategies for Infrastructure and Instructional Facility

Land and Building

The minimum essential space for an institution offering the Integrated Teacher Education Programme includes an administrative wing, an academic wing and other amenities. All spaces should be inclusive and have barrier free access. The institution shall earmark 3000sq.mts (three thousand square meters) land for the initial intake of fifty students and 2000sqm (two thousand square meters) of built up area and the remaining space for lawns, play fields etc. For every additional unit of fifty students, it shall earmark minimum built up area of 200 sqm (two hundred square meters). A minimum number of four toilet blocks shall be earmarked by the Institution, two for students (one each for women and men) and two for staff members, including persons with disabilities. One common hand washing station, with four taps, in an open area shall be provided.

Classrooms

The Institution shall have six earmarked class rooms for one unit with an area of 50sq.mt. (five hundred square meter) for each classroom and for two units or more the number of classrooms shall be increased proportionately.

Library

The library shall cater to the requirements of the programme and shall have a seating capacity for at least fifty persons equipped with minimum 1000 (one thousand) titles and 4,000 (four thousand) books. These include text and reference books related to all courses of study, readings and literature related with the approaches delineated in the programme; educational encyclopedias, electronic publications (CDROMs) and digital or online resources and minimum five referral professional research journals. The institutions shall create digital library with relevant and adequate resource materials. Library resources shall include books and journals published and recommended by National Council for Teacher Education (NCTE), National Council of Educational Research and Training (NCERT) and other statutory bodies, Education Commission Reports and Policy documents. Atleast one hundred titles of quality books shall be added to the library every year. The library shall have photo copying facility and computer with Internet facility for the use of faculty and students.

Laboratories

Laboratories for Science stream subjects such as Physics, Chemistry, Mathematics, Zoology and Botany shall be earmarked with facilities and adequate equipment's for conducting experiments. In humanities stream, a laboratory for Geography shall be made available.

Activity cum Resource Centre

The space so designated shall be used for conducting various activities like craft, educational toys, teaching aids and production of teaching and learning materials, etc. This resource center will be equipped with facilities such as photocopying machine, audio video equipment's, television, projector, etc. A Computer and Language Lab shall be established in this Centre.

Health and Physical Education Venue

Adequate games and sports equipment for common indoor and outdoor games, as well as facilities for yoga education, shall be available.

Multipurpose Hall

The institution shall have one earmarked hall with seating capacity of minimum two hundred seats and minimum total area of 2000 sqft (Two thousand square feet). This hall shall be equipped for conducting seminars and workshops with installation of an audio-visual system.

Faculty Rooms

For faculty, individual work spaces, functional computers and storage spaces shall be provided.

Administrative Office Space

The institution shall provide adequate working space for the office staff, with furniture, storage and computer facilities.

Common Room

The institution shall provide at least one common room.

Store Room

One room with adequate space for storage shall be provided.

Facilities for Differently-abled

Functional and Appropriate Furniture for general and differently-abled persons in required number for instructional and other purposes shall be provided.

Other Facilities

Effective arrangement be made for regular cleaning of campus, water and toilet facilities, repair and replacement of furniture and other equipment. Kitchen garden in the institution be developed and maintained by the student-teachers in order to learn concepts. The existing physical e-sources in other Departments or Universities or Colleges can be shared with this programme, if it fulfills the requirement of the teacher education programme except classrooms, laboratories, activity cum resource center and multipurpose hall which shall be earmarked.

It would be desirable to have rain water harvesting system and infrastructure for renewable energy such as solar panels for electricity. Facilities for extracurricular activities of choice. The institution must adhere to safety guidelines as prescribed by National Disaster Management Authority (NDMA).

Implementation Strategies for Duration and Working Days

Duration: The B.Sc., B.Ed. and B.A., B.Ed. programmes shall be of four years (Eight Semesters) including school Based experiences and internship in teaching. Student teachers shall, however, be permitted to complete the programme within a maximum period of six years from the date of admission to the programme.

Working Days

a) There shall be at least two hundred and fifty (250) working days per year (120 – 130 days in each Semester) excluding the period of admission and examination.

b) A working day will be of a minimum of 6 hours and 6 days in a week and adding up to a minimum of 36 hours per week. The institution shall ensure the availability of teachers and students for consultation and mentoring—providing group of individual guidance.

c) The minimum attendance of student teachers shall have to be 80 per cent for all course work and Practicum, and 90 per cent for school internship.

Implementation Strategies for Intake, Eligibility and Admission

Intake

There shall be a basic unit of (50) students. Initially two units (one unit each in B.Sc., B.Ed. and B.A., B.Ed. or Two units each either in B.Sc., B.Ed. or B.A., B.Ed.) may be permitted. The university may prescribe the distribution of students for different subjects based on the facilities available from the subjects listed in Table-1 as per NCTE Regulations, 2014.

Table-1: Subjects of Specialization

Course	Subject of specialization (Major / Main)
B.Sc., B.Ed.	Mathematics, Physics, Chemistry, Botany, Zoology, Computer Science
B.A., B.Ed.	English, Indian Language (Marathi, Hindi, Urdu, Sanskrit, Tamil, Telugu, Malayalam), History, Geography

Eligibility

(a) The candidates with at least 50% marks in the +2 or its equivalent are eligible for admission

(b) The reservation and relaxation in marks for SC/ST/ OBC/PWD and another category shall be as Per the rules of the Central Government

(c) The choice of subject is based on the eligibility conditions as prescribed for the UG courses of The respective subject of specialization.

Admission Procedure

(a) Admission will be made on merit on the basis of marks obtained in the qualifying examination and in the entrance examination or any other selection process as per the policy of respective Government.

(b) At the time of admission to the programme, the students will need to indicate their selection of The subject to be pursued for the discipline options and accompanying pedagogic Specialization for which they are applying and these may

be assigned on the basis of order of merit and availability.

Implementation Strategies for Eligibility Process

To get the admission for B.A.B.Ed / B.Sc. B.Ed. (Integrated) course candidate should have passed the Higher Secondary School Certificate Examination of Maharashtra State Board of Higher Secondary Education or an equivalent examination from any other statutory Board or University with English as a compulsory subject with at least 50% marks or grade B. D.Ed. candidates should be admitted at S.Y.B.A.B.Ed / B.Sc. B.Ed. The medium of instruction will be Local State Language i.e. Marathi, Hindi, Gujarati, Bengali, Tamil, Telugu, Malayalam, Kannada or English. Eligibility Norms for appearing at B.A. B.Ed / B.Sc. B.Ed. (Integrated) examination are:

1) To appear for the annual examination of F.Y.B.A. B.Ed/B.Sc. B.Ed. (Integrated) candidate has to keep two terms for the course at the College affiliated to this University up to the satisfaction of the principal and such certificate from the principal of that college should be produced along with the examination form.

2) To appear for the annual examination of S.Y.B.A.B.Ed/B.Sc. B.Ed. (Integrated) candidate has to keep two terms for the course at the college affiliated to this University up to the satisfaction of the Principal and such certificate from the principal of the college should be produced along with the examination form. The candidate should have passed minimum 2/3rd subjects of F.Y,B.A.B.Ed/B.Sc. B.Ed.

3) To appear for the annual examination of T.Y.B.A.Ed/ B.Sc. B.Ed. (Integrated) candidate has to keep two terms for the course at the college affiliated to this University up to the satisfaction of the principal and such certificate from the principal of that college should be produced along with the examination form. The candidate should have passed all the courses of F.Y.B.A. B.Ed/ B.Sc. B.Ed. (Integrated) and should have passed minimum 2/3rd subjects of S.Y.B.A.B.Ed. / B.Sc. B.Ed.

4) To appear for the annual examination of Final Year B.A.B.Ed/B.Sc. B.Ed. (Integrated) candidate has to keep two terms for the course at the College affiliated to this University up to the satisfaction of the principal and such certificate from the principal of that college should be produced along with the examination form. The candidate should have passed all the courses of S.Y.B.A.B.Ed/B. Sc. B.Ed. (Integrated) and should have passed minimum of 2/3rd subject of T.Y.B.A.B.Ed./B.Sc. B.Ed. (N.B. keeping terms up to the satisfaction of the principal means).

a) Candidate should have attended at least 80 per cent theory period in each term.

b) Candidate should have completed all practical and other work expected in the syllabus and should have kept their record in the form of Journals.

c) Candidate should obtain minimum 50 per cent marks in each internal course of Part II, III and IV.

Implementation Strategies for Course Structure

The four year integrated programme aims at integrating the general studies comprising B.Sc. in Mathematics, Physics, Chemistry, Botany, Zoology, Computer Science and B.A. in English, Indian Language (Marathi, Hindi, Urdu, Sanskrit, Tamil, Telugu, Malayalam), History, Geography, Foreign Language (German and French) disciplines on one hand and the Professional Studies B.Ed., comprising foundation of education, pedagogy of school subjects and practicum on the other hand relating to the task and functions of a school teacher. Hence, the students shall have to study the content of the graduation level of their choice. In the professional segment, students shall study basics of education, different educational specializations having a direct bearing on teacher tasks, pedagogy of school subjects, undertake school experience, and conduct other practical activities.

As stated earlier, the curriculum of the programme has been organized under two broad components, namely the professional component and the liberal component. The professional component is further divided into three categories, namely educational studies, pedagogical studies and practicum. The semester-wise detailed scheme of studies along with credit weightage for different courses are given in Tables-2 to 9.

Table-2: Semester-wise Course Structure for First Year, Semester I

Title of the Course		Name of the Course	Credits
Part I	Lang I-1	Marathi/Hindi/Gujarati/ Bengali, Tamil/Telugu/ Malayalam/Kannada	4
Part II	Lang II-1	General English	4
Part III	Core 1	Core: B.Sc/B.A……	4
	Core 2	Core: B.Sc/B.A ……	4
	Core 3	Core: B.Sc/B.A ……	4
	Core 4	Supportive 1: B.Sc/B.A ...	4
Part IV	Edn: EPC 1	Yoga, Health and Physical Edn I	2
AECC	A 1	Environmental Studies	4

Table 3: Semester-wise Course Structure for First Year, Semester II

Title of the Course		Name of the course	Credits
Part I	Lang I-2	Marathi/Hindi/Gujarati/ Bengali, Tamil/Telugu/ Malayalam/Kannada	4
Part II	Lang II-2	General English	4
Part III	Core 5	Core: B.Sc/B.A ……	4
	Core 6	Core: B.Sc/B.A ……	4
	Core 7	Core: B.Sc/B.A ……	4
	Core 8	Supportive 2: B.Sc/B.A …	4
Part IV	Edn 1: C&PS	Language across the Curriculum	4
	Edn: EPC 2	Reading and Reflecting on Texts	2

Table 4: Semester-wise Course Structure for Second Year, Semester III

Title of the Course		Name of the course	Credits
Part I	Lang I-3	Marathi/Hindi/Gujarati/ Bengali, Tamil/Telugu/ Malayalam/Kannada	4
Part II	Lang II-3	General English	4
Part III	Core 9	Core: B.Sc/B.A ……	4
	Core 10	Core: B.Sc/B.A ……	4
	Core 11	Core: B.Sc/B.A ……	4
	Core 12	Supportive3:B.Sc/B.A ……	4
Part IV	Edn 2: PE	Childhood and Growing up–I	4
	Edn 3: C&PS	Knowledge and Curriculum	4
	Edn: EPC 3	Drama and Art in Education	2

Table 5: Semester-wise Course Structure for Second Year, Semester IV

Title of the Course		Name of the course	Credits
Part I	Lang I-4	Marathi/Hindi/Gujarati/ Bengali, Tamil/Telugu/ Malayalam/Kannada	4
Part II	Lang II-4	General English	4
Part III	Core 13	Core: B.Sc/B.A ……	4
	Core 14	Core: B.Sc/B.A ……	4
	Core 15	Core: B.Sc/B.A ……	4
	Core 16	Supportive 4: B.Sc/B.A …	4
Part IV	Edn 4: PE	Childhood and Growing up – II	4
	Edn 5: PE	Gender School and Society	4
	Edn: EPC 4	Critical Understanding of ICT	2

Table 6: Semester-wise Course Structure for Third Year, Semester V

Title of the Course		Name of the course	Credits
Part III	Core 17	Core: B.Sc/B.A ……	4
	Core 18	Core: B.Sc/B.A ……	4
Part IV	Edn 6: PE	Contemporary India and Education-I	4
	Edn 7: PE	Learning and Teaching-1	4
	Edn 8: C&PS	Pedagogy of School Subject I	4
	Edn 9: C&PS	Pedagogy of School Subject II	4
	Edn : Int 1	School Internship	4
	Edn : Int 2	Community Living Camp	2
	Edn: EPC 5	Soft Skill	2

Table 7: Semester-wise Course Structure for Third Year, Semester VI

Title of the Course		Name of the course	Credits
Part III	Core 19	Core: B.Sc/B.A ……	4
	Core 20	Core: B.Sc/B.A ……	4
Part IV	Edn 10: PE	Learning and Teaching – II	4
	Edn 11: PE	Contemporary India and Education -II	4
	Edn 12: PE	School Management – I	4
	Edn 13: C&PS	Pedagogy of School Subject I	4
	Edn 14: C&PS	Pedagogy of School Subject II	4

Table 8: Semester-wise Course Structure for Fourth Year, Semester VII

Title of the Course		Name of the course	Credits
Part III	Core 21	Core: B.Sc/B.A ……	4
Part IV	Edn 15: PE	Creating an Inclusive School	4
	Edn 16: C&PS	Assessment for learning – I	4
	Edn 17: PE	School Management – II	4
	Edn 18: C&PS	Pedagogy of School Subject I	4
	Edn 19: C&PS	Pedagogy of School Subject II	4
	Edn: EPC 6	Yoga, Health and Physical Edn II	2
	Edn: EPC 7	Understanding Self	2

Table 9: Semester-wise Course Structure for Fourth Year, Semester VIII

Title of the Course		Name of the course	Credits
Part III	Core 22	Core: B.Sc/B.A ……	4
Part IV	Edn 20: C&PS	Pedagogy of School Subject I	4
	Edn 21: C&PS	Pedagogy of School Subject II	4
	Edn 22: C&PS	Assessment for learning–II	4
	Practicum: Teaching Competency	Pedagogy of School Subject I	8
		Pedagogy of School Subject II	8
AECC	A2	Introduction to Public Administration	4

Implementation Strategies for Core Training Programme for first year B.Ed. Course

This course includes Micro Teaching Lessons and Integration Lessons.

a) ***Micro Teaching Lessons:*** Student teachers will give 12 micro- lessons, for these lessons, they will select any six teaching skills from the list given below. They will complete the cycle of two lessons i.e. teach ñ re-teach for each skill.

1) Set induction, 2) Narration, 3) Questioning, 4) Illustration, 5) Stimulus Variation, 6) Demonstration,7) Reinforcement, 8) Black Board writing 9) Closure 10) Reading

They will complete the cycle of two lessons i.e. teach and reteach for each skill.

b) ***Integration Lessons:*** After practicing six skills in micro teaching, student will give four lessons of minimum 20 minutes, duration to integrate the skills which they practiced.

c) ***Simulation Lessons:*** Each student will conduct one simulation Lesson in each area given bellow on peer group members.

Models of teaching, Team Teaching, Technology based Lesson

d) Lesson Observation (Eight Lesson: b+c)

Core Training Programming for Second year B.Ed. Course

This Programme includes Practice Lessons, Technology Based Lessons, Team Teaching Lessons, Lessons Observation.

a. ***Practice Lessons:*** Each student will give 20 class-room lessons as far as possible equally distributed in the two methods but not less than 6 lessons per method. These lessons are to be given in the secondary/ higher secondary school recognized as Practicing School by the university.

b. ***Technology Based Lessons:*** Student teacher will conduct at least two lessons using modern technology like audiovisual cassette, T.V. Program, Internet, Computerized program etc. If because of some reasons it becomes impossible to conduct these lessons in the schools they may be conducted as simulation lessons.

c. ***Team Teaching Lessons:*** Student teacher will conduct at least two lessons based on concept of team teaching.

d. ***Lessons Observation:*** Each student will observe 10 lessons of other students in the every distributed manner throughout the year.

Core Training Programming for Third year B.Ed. Course

a. ***Practice Lessons:*** Each student will give 20 class room lessons as far as possible equally distributed in the two methods but not less than 6 lessons per method. These lessons are to be given in the secondary/ higher secondary school recognized as Practicing School by the university.

b. ***Team Teaching Lessons:*** Student teacher will conduct at least two lessons based on concept of team teaching.

c. ***Lessons Based on Value Education/ Environmental Education:*** Student Teacher will conduct at least four lessons based on Value Educations/ Environmental Education.

d. ***Lessons Observation*:** Each students will observe 12 lessons of other students in the evenly distributed manner throughout the year.

Implementation Strategies of School Internship

Objectives of Internship are: To enable the student teacher

1. To get an opportunity to observe the teaching of experienced teachers.
2. To teach under the guidance of experienced teachers.
3. To have an experience of Continuous teaching.
4. To participate in all other school activities.
5. To have a feel of total experience of teachers in the school.

School internship would be a part of the broad curricular area of 'engagement with the field' and shall be designed to lead to the development of a broad repertoire of perspectives, professional capacities, teacher sensibilities and skills.

During internship in the fifth semester, student teacher shall spend 4 weeks, spread over several days throughout 5th Semester. This will include one week of school engagement making observation in the school and three weeks of other engagements as explained in the syllabus. The observation record and/or project report of the student teacher should be the base for awarding CCE marks by the faculty.

During the sixth and seventh semester, out of 16 weeks of internship, student teachers will devote one week for observation of classes taken by regular school teachers (at least 5 lessons in each pedagogical subject). The student teachers will devote 15 weeks for classroom teaching which may be in one block or in two blocks, (in one or two different schools). However, the classroom teaching during internship shall be done at any two levels/stages of school. The internship must be both at upper primary (classes VI- VIII) and secondary (classes IX and X) levels. During the internship student teachers will also be engaged in making observation of classes taught by regular teacher (whenever possible) and the peer teachers.

The internship should be in government-recognized schools under Government or private managements, situated within the radius of 40 km of the College of Education concerned for supervision by the faculty members of the college. The schools under CBSE or State / UT patterns can be the schools for internship.

The student teacher during internship in a school should perform the roles of a regular teacher at the respective level under the direct guidance and supervision of the mentoring teacher (Supervising / Guide Teacher) of the school. While at school, the student teacher shall prepare the necessary teaching resources and records for teaching lessons (duration of 45 minutes each).

The total 60 lessons of classroom teaching in 15 weeks may be divided as 30 at level one (15 lessons for Pedagogical Subject I and 15 lessons for Pedagogical Subject II) and 30 at level two (15 lessons for Pedagogical Subject I and 15 lessons for Pedagogical Subject II). A few lessons may be ICT based depending on resources available in the practicing schools.

During this period, (i) classroom teaching (ii) evaluation at the end of 15 lessons and (iii) diagnosis-based feedback to the students should be completed by every student teacher.

Implementation Strategies for Evaluation Procedure

A candidate appearing for B.A.B.Ed/ B.Sc.B.Ed. (Integrated) course will be evaluated at 2 levels—external and internal. The University will conduct external examination at the end of every semester for all the theory course.

Internal Assessment will be done by the college for maximum marks as shown against each Head in the Part II, Part III, and Part IV in the frame work of that year. For the assessment, college will give marks and will submit it to the university at the end of every year. University will convert these marks in to the grades and final assessment will be in the form of grades. The grades so obtained will be shown on the marksheet of the candidate. The Semester-wise marking scheme of each year is given in Tables 10 to 17.

Table- 10: Marking Scheme for First Year-Semester I

Name of the Course	Hours	CCE*	UE**	Total
Part I Language I-1 Marathi/ Hindi/Gujarati/Bengali, Tamil/ Telugu/Malayalam/Kannada	3	30	70	100
Part II Language II-1 General English	3	30	70	100
Part III Core 1: B.Sc/B.A……	3	30	70	100
Core 2:B.Sc/B.A ……	3	30	70	100
Core 3:B.Sc/B.A ……	3	30	70	100
Core 4 Supportive: B.Sc/B.A …	3	30	70	100
Part IV-Yoga, Health and Physical Edn I	-	50	-	50
Environmental Studies	3	30	70	100
Total				750

Table- 11: Marking Scheme for First Year-Semester II

Name of the Course	Hours	CCE*	UE**	Total
Part I Language I-1 Marathi/Hindi/Gujarati/ Bengali, Tamil/Telugu/ Malayalam/Kannada	3	30	70	100
Part II Language II-1 General English	3	30	70	100
Part III Core 5: B.Sc/B.A……	3	30	70	100
Core 6:B.Sc/B.A ……	3	30	70	100
Core 7:B.Sc/B.A ……	3	30	70	100
Core 8 Supportive: B.Sc/B.A ……	3	30	70	100
Part IV- Language across the Curriculum	3	30	70	100
Reading and Reflecting on Texts	-	50	-	50
Total				750

Table- 12: Marking Scheme for Second Year - Semester III

Name of the Course	Hours	CCE*	UE**	Total
Part I Language I-1 Marathi/Hindi/Gujarati/ Bengali, Tamil/Telugu/ Malayalam/Kannada	3	30	70	100
Part II Language II-1 General English	3	30	70	100
Part III Core 9: B.Sc/B.A	3	30	70	100
Core10. B.Sc/B.A ……	3	30	70	100
Core11. B.Sc/B.A ……	3	30	70	100
Core 12. Supportive: B.Sc/ B.A	3	30	70	100
Part IV- Childhood and Growing up – I	3	30	70	100
Knowledge and Curriculum	3	30	70	100
Drama and Art in Education	-	50	-	50
Total				850

Table- 13: Marking Scheme for Second Year - Semester IV

Name of the Course	Hours	CCE*	UE**	Total
Part I Language I-1 Marathi/Hindi/Gujarati/ Bengali, Tamil/Telugu/ Malayalam/Kannada	3	30	70	100
Part II Language II-1 General English	3	30	70	100
Part III Core 13: B.Sc/B.A …….	3	30	70	100
Core14: B.Sc/B.A ….....…	3	30	70	100
Core 15: B.Sc/B.A …....…	3	30	70	100
Cour16 Supportive: B.Sc/B.A	3	30	70	100
Part IV Childhood and Growing up – II	3	30	70	100
Gender School and Society	3	30	70	100
Critical Understanding of ICT	-	50	-	50
Total				850

Table-14: Marking Scheme for Third Year-Semester V

Name of the Course	Hours	CCE*	UE**	Total
Part III Core: B.Sc/B.A …	3	30	70	100
Core: B.Sc/B.A ……	3	30	70	100
Part IV				
Contemporary India and Education -I	3	30	70	100
Learning and Teaching-1	3	30	70	100
Pedagogy of School Subject I	3	30	70	100
Pedagogy of School Subject II	3	30	70	100
School Internship	-	100	-	100
Community Living Camp	-	50	-	50
Soft Skill	-	50	-	50
Total				800

Table- 15: Marking Scheme for Third Year - Semester VI

Name of the course	Hours	CCE*	UE**	Total
Part III Core: B.Sc/B.A ……	3	30	70	100
Core: B.Sc/B.A ……	3	30	70	100
Part IV				
Learning and Teaching – II	3	30	70	100
Contemporary India and Education -II	3	30	70	100
School Management – I	3	30	70	100
Pedagogy of School Subject I	3	30	70	100
Pedagogy of School Subject II	3	30	70	100
Total				700

Table- 16: Marking Scheme for Fourth Year - Semester VII

Name of the Course	Hours	CCE*	UE**	Total
Part III Core: B.Sc/B.A……	3	30	70	100
Part IV Creating an Inclusive School	3	30	70	100
Assessment for learning – I	3	30	70	100
School Management – II	3	30	70	100
Pedagogy of School Subject I	3	30	70	100
Pedagogy of School Subject II	3	30	70	100
Yoga, Health and Physical Edn II	-	50	-	50
Understanding Self	-	50	-	50
Total				700

Table- 17: Marking Scheme for Fourth Year - Semester VIII

Name of the Course	Hours	CCE*	UE**	Total
Part III Core: B.Sc/B.A.…	3	30	70	100
Part IV Pedagogy of School Subject I	3	30	70	100
Pedagogy of School Subject II	3	30	70	100
Assessment for learning – II	3	30	70	100
Pedagogy of School Subject I	-	100	100	200
Pedagogy of School Subject II	-	100	100	200
Introduction to Public Administration	3	30	70	100
Total				900

Implementation Strategies of Pattern of Question Paper for University Examination

- Maximum Marks in the University Examination and duration: 70 marks – 3 hours
- 2 questions of 10 marks each =20 (Answer 2 Questions out of 4 with internal choice)
- 6 questions of 5 marks each = 30 (Answer 6 Questions out of10)
- 10 questions of 2 marks each = 20 (Answer 10 Questions out of10)

Implementation Strategies of Distribution of Marks for Continuous and Comprehensive Evaluation (CCE) for both General and Professional Studies

For Theory Courses

The CCE weightage for continuous internal assessment tests and task & assignment projects should be equal i.e. 5 marks for a periodical test and 5 marks for a project. There should be at least three tests and three projects for a course.

For Courses on Enhancing Professional Capacities (EPC)

The following specialized courses are offered to enhance the professional capacities of student teachers.

Course EPC 1: Yoga, Health & Physical Education Course

EPC 2: Reading and Reflecting on Texts Course

EPC 3: Drama and Art in Education Course

EPC 4: Critical Understanding of ICT Course

EPC 5: Understanding the SelfCourse

EPC 6: Yoga, Health & Physical Education Course

EPC 7: Soft skill

The evaluation of student teachers for these courses shall be totally internal. The total of 50 marks allotted to each of the courses is assigned as follows.

Periodical tests based on the prescribed syllabus (at least two) - 10Marks

Assessment based on at least 4 of the tasks and assignments listed under the course outline–

10 x4 = 40.

For Teaching Competency (During School Internship)

The different aspects of practicum and weightage marks for each of the Pedagogical Subjects I and II. The total of 100 marks allotted is as follows

Teaching Competency (Planning and Performance) 50 Marks

Preparation of Teaching Resources, (Including ICT based) 20 Marks

Lesson observation record (Peer and Regular teacher) 10 Marks

Evaluation, Diagnosis and Remedial programme (Record) 20 Marks

Norms for Passing the Examinations

The merit/class to be awarded to the student on the basis of aggregate marks obtained by the candidate in internal and external assessment at first, second, third and final year of B.A.B.Ed/ B.Sc.B.Ed. examinations is shown in Table-18 given below.

Table-18: Marks Required for Awarding Merit/Class

Sr. No.	Class	% marks in External Assessment	Minimum Grade in Internal assessment
1.	First class with Dist.	Aggregate 70% and above but minimum 50% marks in each head of Part I	Grade O in each (Part II, Part III, Part IV)
2.	First class	Aggregate 60% to 69% minimum 50% marks in head of Part I	Grade A in each Part (Part II, Part III, Part IV)
3.	Higher Second Class	Aggregate 55% to 59% but minimum 50% marks in each head of Part I	Grade B+ in each part (Part II, Part III, PartIV)
4.	Second Class	Aggregate 50% to 54% but minimum 50% marks in each head of Part I	Grade B in each Part (Part II, Part III, Part IV)
5.	Fails	Below 50% in each head ofPart	

Conclusion

Recognizing that the teachers will require training in high-quality content as well as pedagogy, teacher education will gradually be moved by 2030 into multidisciplinary colleges and universities. As colleges and universities all move towards becoming multidisciplinary, they will also aim to house outstanding education departments that offer B.Ed., M.Ed., and Ph.D. degrees in education. By 2030, the minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree that teaches a range of knowledge content and pedagogy and includes strong practicum training in the form of student-teaching at local schools. All such B.Ed. degrees would be offered only by accredited multidisciplinary higher education institutions offering 4-year integrated B.Ed. programs. Multidisciplinary higher education institutions offering the 4-year in-class integrated B.Ed. programme and having accreditation for Online Distance Learning may also offer high-quality B.Ed. programs in blended or Online Distance Learning mode to students in remote or difficult-to-access locations and also to in-service teachers who are aiming to enhance their qualification, with suitable robust arrangements for mentoring and for the practicum training and student-teaching components of the programme. For all above reason proper strategies needs to be devised while implementation the four-year integrated B.A.B.Ed./B.Sc.B.Ed. Degree course in national educational policy. There should be infrastructure and Instructional facilities for four-year B.A.B.ED./B.SC.B.ED. Course as per NCTE norms Admission process, Curriculum, syllabus, Evaluation and examination process should be implemented subject to affiliated university rule.

Reference

1) *http://www.hindustantimes.com/new/editedbynandini*
2) *http://www.mhrd.gov.in/file/nep_final_english_o.pdf*
3) *http://www.ncte.gov.in/ncte_new/regulaltion/appendix16-17*
4) *http://www.pondiuni.edu.in/files/4yearintegratedbed*
5) *http://www.sharda.ac.in/blog/integrated-bed*
6) *http://www.unipune/4yearbed/edu* ❑

Developing Teachers as Facilitators: Strategic Mission for New Age Teacher Education

Sandeep Patil* and Chandrakant Baviskar**

Prologue

Knowledge is unanimously the ultimate driving force in the modern era where rapid socioeconomic advances are taking place. Information and Communication Technology (ICT) has emerged as the defining element in the progress of the society. It has escorted knowledge explosion and proven knowledge as dynamic entity. Knowledge is not confined within the four walls of classroom. Varied resources and approaches are available for self-learning. Human society is emerging as the knowledge society where knowledge related issues are at the central juncture. It has augmented incredible competition in the knowledge sector. Subsequently global standards are ascending in the field of education to deal with these changes and to shape the future society as knowledge driven. UNESCO's International Commission on Education for twenty-first century in its report 'Learning the treasure within' (1996) has advocated 'learning to know', 'learning to do', 'learning to live together' and 'learning to be' as the four pillars of education for the new millennium. It has emphasized learning throughout life as a necessity. On the other hand, we are still struggling to accomplish universalization of elementary education. The notion of Universalization of secondary education is gaining momentum. All these concerns need to be dealt genuinely in the educational process.

Education is construed as the true means of social transformation. Hence foremost responsibility lies upon education system to shape the future generation as knowledge driven society. It needs to foster the learner as knowledge activist who will reflect and construct knowledge on his own. Education needs to address the impending needs, issues and trends from global to local scenario. It is supposed to empower the learners to achieve such skills, competencies and dispositions to be the creators of knowledge. National Curriculum Framework for Teacher Education, 2009 has appositely argued that we need to view learners as active participants in their own learning and not as mere recipients of knowledge; need to encourage their capacity to construct knowledge. Teaching is no longer seen as imparting knowledge, but it is redefined as facilitation of self-directed learning (Tight, 1996, p.26).Learning is to be viewed as a search for meaning out of personal experiences and knowledge generation as a continuously evolving process of reflective learning. It is imperative to innovate and streamline the curriculum and particularly the teaching-learning process. Rogers (1983) has indicated that we should concentrate less on teaching, instructing or imparting knowledge and more on facilitation of learning. National Knowledge Commission's report to the Nation, 2009 has reckoned teachers as single most important element of school system. It is obvious that during the attempts to makeover educational process due attention must be paid towards the development of teacher. National Policy of Education, 1986 has pointed out that no education system can rise above the level of its teachers. When paradigm shift is in demand where learners are expected to reflect, construct and apply knowledge, teacher needs to be a facilitator who will be supporting and encouraging pupils' learning endeavors (Fig. 1).

According to Borrous and Tamblyn (p.198) as well as Davis and Harden (p.18, 1999), "The move towards a more student centric learning requires a fundamental shift in the role of a teacher. "The more responsibility and freedom given to the student, greater will be the shift required in teacher's role. Teacher's role is not to inform students, but to encourage and facilitate them to learn for themselves using the problem as focus for the learning. Learners are expected to share knowledge, ideas and perspectives, reflect as well as perform problem-solving so as to become creators of knowledge. Hence teacher cannot be mere dispenser of information or instructor. He has to be more of a motivator and director of students' learning. He needs to sit aside the students as co-learner in their peregrination of knowledge construction. Teacher needs to create such a conducive environment for them. This environment shall be comprising opportunities as well as challenges for provoking higher cognitive

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processes to promote knowledge construction. Teacher is not expected to deliver the content or instruct rather he has to design and operationalise learning structures and scenarios of students' group learning. He shall offer resources, tools and facilities as well technologies for this process. Therefore teacher is expected to perform as facilitator in the new age paradigm.

Fig. 1: Paradigm Shift In Education

	Traditional Paradigm		New Age Paradigm
FOCUS	Instruction focused paradigm	→	Learning focused paradigm
PHILOSOPHY	Learner as an empty vessel to be filled	→	Learner already possesses certain knowledge & he himself constructs knowledge
VIEW	Education as a social necessity	→	Education as a lifelong process
NATURE	Content driven & teacher centered education	→	Process driven & learner centered education
CURRICULUM	Unidirectional & rigid curriculum	→	Diversified, flexible & dynamic curriculum
COURSE DELIVERY	Lecture, assignments, exams for summative purpose	→	Active, self-directed ,cooperative learning, assignments for formative purpose
CULTURE	Competitive & individualistic	→	Cooperative, collaborative & supportive
THOUGHT PROCESS	Convergent thinking, rote memorization promoted; guessing & divergent thinking discouraged	→	Provoking higher mental processes, encouraging divergent thinking
BRAIN FUNCTIONING	Emphasis on analytical linear left brain thinking	→	Strives on whole-brain thinking
STANCE ON LEARNING	Learning as a destination	→	Learning as a journey, process
KNOWLEDGE	Abstract & detached, discipline specific	→	Life-centric, value-based & trans-disciplinary knowledge
PEDAGOGY	Lecture based on delivery of information	→	Participatory learning methodologies based on active engagement of students
EVALUATION	Norm referenced evaluation	→	Criterion referenced evaluation
ASSESSMENT	Assessment used to monitor & measure learning	→	Assessment used to promote, diagnose & empower learning
TEACHING-LEARNING PROCESS	Didactic models of teaching	→	Constructivist models of learning
TEACHER	'Sage on the stage', sole transformer of information	→	'Guide by side', co-learner, motivator & director of students' learning
ROLE OF TEACHER	Lecturer	→	Facilitator, learning mediator, director
LEARNING	Individualized notions of learning through listening, reading, rote memorization	→	Group learning, learning partnerships, communities of practice

Teacher as a Facilitator

The notion of facilitator originated basically from the field of counselling and psychotherapy and later its vitality has knocked the doors of various fields including education. Credit goes to Carl Rogers to endorse this concept in education. He was a true visionary to emphasize teacher as a facilitator for the new era. Gregory (2002) has claimed, "Facilitative approach to teaching teases out previous learning and helps students 'make sense' of experiences in relation to real world events." Facilitative role according to Haith-Cooper (2003) and Gregory (2002) is one that encourages the students to engage in intellectual analysis, critical thinking, problem solving, and describing experiences. In the view of Haith-Cooper (2000), this role is also of challenging learning. As per Dictionary of English Language (2009) to facilitate means to make easy or easier. According to Collins English Dictionary (2003) it is about making easier; assist the progress of. Facilitator is someone who helps a group of people understand their common objectives and assists them to plan for achieving them without taking a particular position in the discussion. He is the one who contributes structure and processes to the interactions so that groups are able to function effectively and make high quality decisions. Bens (2000, pg. viii) has defined the facilitator as, "a helper and enabler whose goal is to support others as they achieve exceptional performance To facilitate means to make a process flow and go through easily and smoothly." So facilitator is someone who ensures that a group is able to work effectively and collaboratively by helping to manage and support the group decision. He is expected to promote group participation, mutual understanding and shared responsibility among the members in doing so. Facilitator should know a) what preparations need to be done b) how to manage the event c) set up the whole event together. This includes i) preparation at the start of the activity ii) during the process until the wrapping up part.

Facilitator's job is to support everyone to do their best thinking and practice. Facilitator encourages participation, promotes mutual understanding and cultivates shared responsibility to do this. Educators in dialogic learning and other peer instruction approaches often serve as facilitators. According to a common definition, an educational facilitator has the same level of knowledge about both education and subject matter as a teacher, but works with the goal of having students take as much responsibility for their own learning as possible.

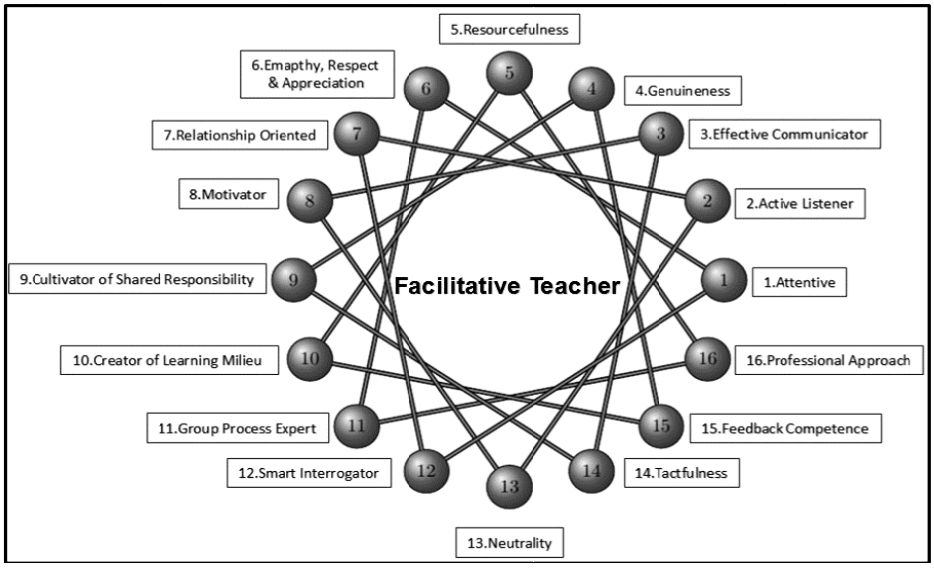
Facilitative teaching seeks to help the learners 'construct' meaning and come to an understanding of important ideas and processes. In the view of Wiggins, G. and J. Mc Tighe, (2007), "Teacher in this role guides the learners' inquiries into complex problems, texts, cases, projects, or situations. Their principle methods are questioning, probing and process related commentary, with little or less direction." Teacher in the new role as facilitator has to realise that the knowledge exists all around consistently challenging our beliefs. This role stresses the fact that lifelong learning is inevitable to live successfully. His task is to perform as a mediator in the encounter between the individual and the mass of information. Teacher needs to inspire their students to take ownership in their own learning. He shall provide opportunities for students to learn key concepts and discover the tools that they need for learning so as to become lifelong learners. Teacher through facilitation shall engage, lead, inspire, and encourage the students in and beyond the classrooms in 21st century. As a new age teacher facilitator, one needs to be able to find resources and new ideas for classrooms. Facilitative teacher is not so much a source or a purveyor as a guide to sources, an organizer of opportunities and director in the techniques of inquiry and thought. His knowledge is not an ingredient in the student's education, to be consumed and used up, but a catalyst promoting the reactions of learning and growth as a result of the encounter between human capabilities and increasing knowledge.

It is obvious that teacher as a facilitator requires a varied set of qualities as compared to the traditional teacher. Paradigm shift demands teacher as a thorough professional having facilitative outlook, but it is barely seen anywhere. Teacher of today still seems to be at the bottom of the mountain and he is expected to reach the peak of it as far as the facilitative development is concerned. Contemporary teacher seems to be still far away from the expectancy as a facilitator. Even today teachers seem to be not valuing their students with empathy and respect much. They lack professionalism in their approach towards their work. Teaching-learning process in today's classrooms is still teacher-centric. Teacher is still the ultimate authority without emphasizing prominence of students' opinions and views. Didactic lecturing is still followed eventually promoting rote memorization rather than fostering of learning environment. Hence it is imperative for teacher education to work in this perspective with priority. Teacher education institutes need to develop teachers as facilitators in the light of paradigm shift in education.

Facilitative Teacher Characteristics

Facilitative teacher is a composite role that calls upon many facets of teacher's abilities and common sense. It is difficult to quantify or define precisely, yet it is not difficult to recognize when it is occurring and to know when it is missing. There are many traits which distinguish a facilitative teacher from conventional teacher. Carl Rogers (1983, p. 121) applied his theory of counselling and psychotherapy to education when he claimed that the facilitation of significant learning rests upon certain attitudinal qualities that exist in the personal relationship between the facilitator and learner. Rogers (1983) highlighted three distinct traits of teacher as a facilitator; (i) Genuineness, (ii) Acceptance, and (iii) Empathetic understanding of the learner. Here are particular characteristics of a facilitative teacher drawn through the rigorous review of literature as

Fig. 2: Characteristics of Facilitative Teacher



well as discussion with experts (Fig. 2). They are as follows:

Attentive

Facilitative teacher needs to be attentive right from the beginning till the end of the session. He shall possess the sense of modesty towards students all the time addressing their needs and feelings and making them comfortable. Facilitative teacher is expected to monitor every student and promote everyone to actively participate. In fact he has to be attentive towards each and every activity of each student.

Active Listener

Facilitative teacher shall be an active listener as he is no more the sole transmitter of knowledge. He is expected to promote utmost interactions among students. Facilitative teacher needs to listen thoroughly & responsively to understand and determine what students are thinking & feeling along with perceiving verbal and non-verbal cues.

Effective Communicator

Effective communication is most demanded in today's classrooms facilitating students' thinking and self-construction of knowledge. That's why the facilitative teacher must be an effective communicator (Fig. 2). He shall be able to stimulate student interactions by communicating positively and precisely. He shall provide clear and timely directions to the students throughout discussions to make them prolific.

Genuineness

Genuineness is one such attribute which is quite indispensable for a facilitative teacher. He must be a real person in his relationship with students. He shall project a genuine concern for students showing openness and cognitive and behavioral flexibility.

Resourcefulness

Resourcefulness is of paramount significance for a teacher to be facilitative. He shall essentially possess strong subject matter knowledge, profound pedagogic competence as well as knowledge of assessment of audience. Furthermore he needs to have mastery regarding group dynamics. He shall act as a resource rather than mere transmitter of information. Overall he shall be adept enough to be the designer of group learning experiences through his ingenuity.

Empathy, Respect and Appreciation

Empathy, respect and appreciation are prime virtues of a facilitative teacher as regarded by Carl Rogers. He shall demonstrate sensitivity and responsiveness to students' personal ideas, needs, interests, feelings and diverse contexts. He shall exhibit positive regard for each student placing high values on students' identities. Teachers who accept, respect and encourage as well as empower their students emphasizing personal choice and creativity facilitate natural actualizing tendency. This enables the students to meet their need of self-esteem.

Relationship Oriented

According to Brendtro, Brokenleg and Van Bockern (1990, p. 58), "facilitative teacher's entire approach and actions must be focused on sustaining relationships." Research shows that the quality of human relationship in schools…may be more influential than specific technique or interventions employed. Consequently facilitative teacher needs to establish a good rapport with the learners. He must be honest in his interpersonal relationships showing relational sensitivity. He shall also assist the students to work in collaboration to achieve desired outcome.

Motivator

One of the most distinct transformations for a teacher from conventional role to the facilitative one is vis-à-vis motivation. Youngs (1989, pg.24) has opined, "No matter how excellent an education we offer, unless our students are motivated to take advantage of it, they will not apply themselves enough to learn." Facilitative teacher expected to be a motivator encouraging students' curiosity and interactions. He shall encourage students to participate, interact and explore. He shall inspire sharing of ideas and perspectives and also boost the quitter students to share and contribute.

Cultivator of Shared Responsibility

Facilitative teacher shall cultivate shared responsibility of learning among the students of the group. He needs to facilitate team building and collaboration as well as establish role clarity and credibility among them. He shall ensure that everyone has an equal opportunity to participate. Facilitative teacher shall emphasize group learning and interpersonal dynamics to promote synergy.

Creator of Learning Milieu

Most momentous task of facilitative teacher is to create conducive learning environment. The

function of facilitative teacher is to accentuate on creating a classroom climate to facilitate self-initiated learning, the freedom to learn and learning to be free. Rogers (1967, p.57) has emphasized, "First the students must be allowed to be free and responsible then they must confront real life problems." He shall establish a pleasant atmosphere for learning. He shall be able to use apt resources and opportunities to create positive and supportive learning environment. He needs to focus on crafting a climate of trust, freedom and positive interdependence among the learners so as to provoke higher thought processes.

Group Process Expert

Facilitative teacher is expected to possess another distinguishing trait of group process expertise. The role of a group facilitator according to Hunter (2007) is to guide the group process to help participants achieve their agreed purpose. Schwarz (2005) has described the facilitator as a process expert and advocate who knows the best way to help the group to improve their functioning. He shall be competent enough to direct the group process towards attaining its goals. He must be able to focus a group and guide its development through organic cycles, using cooperative processes and collective decision making.

Smart Interrogator

Questioning abilities of the teacher are quite crucial if he wishes to be a facilitative teacher. Facilitative teacher should be a smart questioner during the process. It will stimulate reflection and higher order thinking among the learners. This will also prove instrumental for the group to attain its goals. Open ended questions shall be preferred so as to evoke the thought process of the students. Facilitative teacher should also be able to redirect the questions and comments for the discussion to lead to the preferred track.

Neutrality

Teacher should prefer neutral stance if he wishes to be facilitative. Schwarz (2005, p.27) has described a facilitator as, "a substantively neutral third party, acceptable to all members of the group, who has no substantive decision-making authority." He has to stay objective to appear unbiased to anyone's points. Facilitative teacher is expected to be able to work with the students without influencing the group decisions. Schwarz (2005) has emphasized, "Facilitator needs to be a substantively neutral third party to minimize the likelihood of becoming involved in content or decision-making." He has to be capable enough to facilitate the discussion without sharing opinions and to maintain objectivity.

Tactfulness

Facilitative teacher must be a tactful teacher. He should be adroit in evoking participation and creativity of the students. He must keep discussions on track and use time and space intentionally. Facilitative teacher should be capable enough to handle disruptions and utilize students' contexts and experiences as well as outdoor resources in classroom. He needs to be clever enough in creating and maintaining high interests of the students throughout the group process.

Feedback Competence

Feedback competence is furthermore a key characteristic for a facilitative teacher. He should be able to provide immediate feedback after the event. He needs focus on the behavior and thought rather than the person and provide descriptive feedback based on the observation rather than inference. He shall strictly avoid negative feedback.

Professional Approach

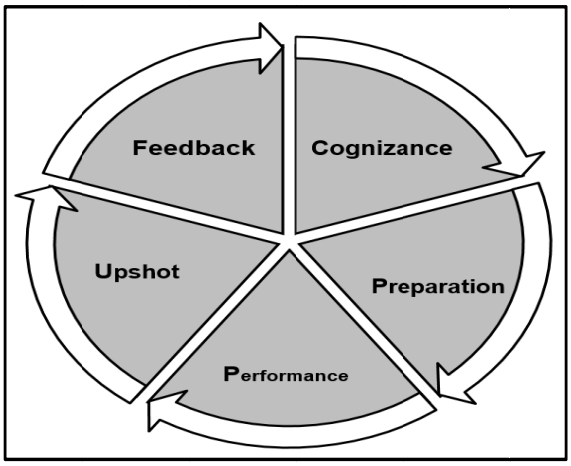
Facilitative teacher is expected to have professional approach. He should be clinical as far as time and resource management is concerned. He shall possess self-awareness, confidence, positive outlook, patience and perseverance along with enthusiasm and commitment. He shall follow task-oriented approach ensuring quality decisions and deadlines.

These characteristics of facilitative teacher need to be fostered through pre-service as well as in-service teacher education. A fresh look at teachers' professional preparation is indispensable to rear these characteristics. Teacher education calls for reshaping the curriculum to cultivate facilitative competence among teachers.

Phases of Facilitative Development

Facilitative development is a profound and gradual process of nurturing vital characteristics that mature teacher as a facilitator promoting group learning processes. There are certain phases of facilitative development which can be clearly recognized (Fig. 3).

Fig. 3: Phases of Facilitative Development



a) Cognizance

It can be termed as an icebreaker phase. Student teacher unlearns and relearns the new role of teacher as a professional. He realizes the paradigm shift and recognizes the importance of his role as a facilitative teacher. This cognizance derives through the orientation and discussion with expert facilitative teacher. It is the first if not the most significant phase of facilitative development as the student teacher understands the significance of facilitative competence. Therefore his thought process gets focused in this regard. It is the beginning of his development as facilitator. He identifies attributes required to be adopted to mature as an effective facilitative teacher.

b) Preparation

Student teacher recognizes the thought process and actions of expert facilitative teacher during his preliminary work. He observes lesson planning along with groundings regarding various factors associated with group learning viz. classroom settings, learning resources, technological support, time management, etc. Student teacher becomes aware of the group learning design as well as various group learning strategies. He grabs the opportunity of observing facilitative teacher while doing groundwork. Thus he becomes clued-up for the performance phase. It stimulates his thought progression to perform as facilitative teacher.

c) Performance

Authentic group process commences after the preparation phase where student teacher sits in the group as a participant. Clear guidelines are provided to the participants by facilitative teacher regarding classroom settings as well as task. Student teacher gets an opportunity to observe the way facilitative teacher accelerates learning initiatives by creating conducive learning environments. Student teacher perceives the means of promoting group learning process by witnessing facilitative teacher's techniques of motivating, appreciating, questioning, etc. He apprehends how to ensure successful group learning and attain predetermined objectives. Student teacher as a participant in this process shares his knowledge, ideas and perspectives. He becomes thoroughly involved in learning collaborations. He raises questions, clarifies his stands, adds to or modifies others' knowledge or views. Subsequently all the participants are able to construct their knowledge. Discussion regarding the progression of group learning is held at the end of every session. Student teacher reflects & expresses his observations regarding the steps involved in group learning, facilitative teacher's performance, approach as well as his cognitive processes. He understands the roles of facilitative teacher and participants. Hence he understands the real-time group structuring and processing. He draws out diverse attributes required to be a successful facilitative teacher. Thus he gets real time experience about performing as a facilitative teacher. Experience of such successive sessions of group leaning enables the student teacher to intellectualize the role as well as approach of facilitative teacher.

d) Upshot

It can be also named as outcome phase. Student teacher performs as facilitative teacher in classroom settings. He plans for the practice lessons by designing and accomplishing group learning processes. His reflection, envisioning and application capabilities are employed. He designs and operates the group process. He selects the topic and group learning strategy for practice lesson keeping in mind the contexts and capacities of students. He determines lesson objectives as well as finds out the concepts related to the topic. He resolves his role as facilitative teacher and students' role as participants in group learning process. He organizes various resources and aids required for the process. He also plans about the time factor and classroom settings. Student teacher as facilitative teacher plans vis-à-vis formative and summative assessment to diagnose and support the group learning. He furthermore ensures himself regarding the timely instructions to be given for the process. He accomplishes the group learning

procedure as per the design. He confirms that the group process leads to the predetermined objectives. Student teacher makes an extensive reflection about his performance and discusses the same with his peers as well as expert facilitative teacher. This becomes quite substantial for diagnosing and improving his performance. Experience as such gradually fosters the facilitative competence among the student teachers. Essential facilitative characteristics get reared. Now his thought process becomes emphatically resolute as required for this role.

e) Feedback

This phase is in twofold genre. Initially it is integrated in the upshot phase itself where student teacher holds discussion with peers and expert facilitative teacher after each practice lesson of group facilitation. Again the exhaustive feedback occurs after the completion of each series of practice teaching. This offers prospect for the student teacher to comprehensively reflect and discuss his planning and performance. The voids and slips get diagnosed. Explicit attitude required as a facilitative teacher gets scanned. The level of facilitative competence of student teacher with respect to the encrypted facilitative characteristics can be judged. So student teacher gets a clear idea regarding his extant prominence as facilitative teacher and accordingly the remedial measures can be organized.

Facilitative development is an enduring process which follows a cyclic manner. Student teacher or in-service teacher has to turn back to the cognizance phase if there are concerns regarding his attitude or thought process. He needs to get reoriented regarding the role as facilitator. Then the whole cycle of facilitative development will follow. If there are voids in his performance as facilitative teacher then he needs to go through the preparation-performance-upshot-feedback phases as per the necessity. New skills, competencies and strategies of facilitation arise in the rapidly changing era of knowledge driven society. Hence one's development as a facilitative teacher is not static; in fact it is continuous and dynamic. These phases of facilitative development provide crucial platform for designing and organizing facilitative development programs.

Promoting Facilitative Development through Teacher Education

A novel model for educational theory and practice is desperately needed for preparing teachers to develop as facilitators. Blend of cognitive and affective development in education and a focus upon the interpersonal conditions for facilitating significant learning require changes in the preparation of teachers. Teacher education currently emphasizes subject matter and methods of cognitive learning. It has been possible to develop interpersonal qualities in counsellor education, so it is very much possible in teacher education. Such development of student teacher demands complete rethought of teacher education programs. Curriculum development along with curriculum transaction need to focus on the facilitative development. Current efforts in teacher education system doesn't seem to emphasize facilitative development. Sudden and absolute transformation of teacher education curriculum and teaching-learning process in the light of facilitative development is not feasible and probable. Even teacher educators are not prepared and competent enough for it. Traditional approach to pre-service teacher education cannot be entirely denied at present. Entrant to the pre-service teacher education program is completely unaware of the professional necessities for a teacher. He needs to acquire fundamental knowledge, skills, competencies as well as attitude of teaching profession. Therefore traditional approach for the initial phase cannot be neglected; in fact it is quite indispensable. The sequence of microteaching-integrated lessons-demonstration lessons-practice teaching provides solidarity to their professional advance as teacher. Later it becomes quite suitable and impeccable to foster facilitative development through series of workshops and facilitation centered practice teaching sessions. Integrating such orientation-cum-workshop and facilitation focused practice teaching sessions for facilitative development along with traditional initial professional development approach can be astride forward in this direction. Such reform will lay foundation for fostering facilitative attributes as well as promote thought process of student teachers as facilitative teachers. Such fostering of attributes as well as attitude can be upheld through persistent efforts by both practical as well as theory. The role of theory is also crucial as it can be substantial in focusing the direction of the thought progression. Later the entire teacher education curriculum can be molded as competency based focusing facilitative development. Teacher educators themselves need to be facilitative teachers if we wish to nurture facilitative development among student teachers. Initially the teacher educators need to be empowered in this

direction. Firm preparation of teacher educators is required in this regard. Hence the teacher educators' community need to come together to accept this challenge as a mission with seal and commitment.

Facilitative Development Program

Facilitative development program needs be designed in accordance with the phases of facilitative development. Such program may be of orientation-cum-workshop nature. A model of such facilitative development program is proposed (Fig. 4).

i) *Awareness Stage*

Paradigm shift in education is brought into consideration of the participants (student teachers or in-service teachers) along with the significance of facilitative competence in new paradigm. They are acquainted with their role as facilitator. It is the beginning of the facilitative development program as the participants are made conscious about where they stand and where they have to move further regarding facilitative development. Opportunity is offered to unlearn and relearn the concept of teacher as a professional. Orientation and discussions are held at this stage so as to encourage the participants understand their new role as facilitative teacher.

ii) *Groundwork Stage*

Most probably teacher educator himself plans and performs as facilitative teacher. Student teachers (or in-service teachers) at this stage get an opportunity to experience the planning and execution for group learning procedures. Facilitative teacher (teacher educator as facilitative teacher) does the preparatory work such as classroom settings, learning resources, technological aids, time management, etc. Participant can observe the facilitative teacher while doing groundwork. Hence participant becomes prepared for the performance stage. He understands the group design and group processes to follow. It provokes his thought process to perform as facilitative teacher.

iii) *Operational Stage*

Here the authentic group learning progression occurs. Teacher educator (most probably himself) performs as facilitative teacher while the student teachers as participants. Directions are provided to the participants regarding classroom settings as well as the procedure to follow. Facilitative teacher accelerates the learning initiatives by creating favorable learning environment. He promotes the group learning process by motivating participants, raising questions, offering cues, etc. He ensures that the group learning process leads to its desired output i.e. attain predetermined objectives. Student teacher experiences the learning process. Discussion is held at the end of every session. Student teachers as participants reflect & express their observations regarding the steps involved in group learning, facilitator's approach and stance as well as his cognitive processes behind it. This enables to understand the role of facilitative teacher and participants. Such sessions are carried out with various group learning strategies on different topics. Student teacher is able to draw out required characteristics to be a successful facilitative teacher. Hence augmented understanding is gained about how to perform as facilitative teacher. Furthermore student teacher himself conducts group learning facilitation in peer groups. He acquires hands-on experience of planning and performing as facilitative teacher. This offers vibrant exercise to perform in actual classroom settings.

iv) *Reaping Stage*

It can also be termed as manufacturing stage where the student teacher has to perform as facilitative teacher in actual classroom situation. He does all the preparations from determining instructional objectives, lesson planning, choosing the appropriate group learning strategy, deciding group design and classroom settings as well as determining about the timely instructions till confirming the assessment. He predetermines his role as facilitative teacher and students' role as participants in group learning processes. Student teacher as facilitative teacher organizes various resources and supports required for the process. He carries out the group learning process as per the design. He confirms that the group process leads to knowledge construction and attainment of predetermined objectives. He has a thorough reflection about his performance and discusses the same with his peers as well as teacher educators. It befits quite substantial in diagnosing and improving his performance. Experience of such lessons of group facilitation eventually fosters the facilitative competence among the student teachers.

v) *Follow-up Stage*

Follow-up session is carried out after the completion of practice teaching. This time the student

teacher reflects and discusses his overall planning and performance in entire practice teaching stage regarding group facilitation. Teacher educator diagnoses the performance as well as his thought process. He recognizes the voids and slips in the student teacher. Teacher educator confirms whether the facilitative attitude is properly nurtured. He explores the level of facilitative competence of student teacher with respect to facilitative characteristics. This is done with the help of various tools of qualitative and quantitative evaluation such as qualitative analysis of lesson plans, facilitative development lesson plan rating scale, personal interviews, facilitative attitude test, group interview schedule, opinionnaire, etc. Therefore the student teacher gets a clear idea about his present status as a facilitative teacher. Consequently the remedial program can be reorganized if needed.

It is obvious that teacher education needs to foster the facilitative development through its pre-service and in-service mode. Such models of facilitative development program can prove instrumental in that perspective.

Epilogue

New paradigm of education demands the teacher to change his stance and become friendlier with the learner. Teacher needs to be planning, preparing and performing as a facilitator for new age classrooms where the learners will be the creators of their own knowledge. Onus lies on teacher education system to nurture such facilitative development through its pre-service and in-service mode. Rigorous orientation and hands-on experience need to be offered to the student teachers so as to develop essential facilitative attitude as well as competencies. Facilitative development program needs to be an integral part of the teacher education curriculum. Such program shall be designed and instigated on the basis of nature and phases of facilitative development. Facilitative development program combined with traditional methodology at initial stage can pave the way for expected facilitative development. Theoretical aspect of teacher education can be quite useful in enhancing cognizance of student teachers as well as in-service teachers. Similarly teacher will get acquainted with various innovative pedagogic and synergogic group facilitation structures, processes and strategies. Reformed constructivist approach to teacher preparation is indispensable where gradual transformation of teacher education will occur eventually leading the teacher education towards entirely competency based and facilitation centered. This will surely lead towards time pertinent and quality assured teacher education addressing the aspirations of coming generations. Firm positioning and grounding of teacher educators is required in this regard. Teacher educators' community shall come ahead and join hands to accept this challenge as a mission for new times.

References

1. Adams, A., Bondy, E. and Kuhel, K. (2005). Pre-service Teacher Learning in an Unfamiliar Setting. *Teacher Education Quarterly*, 32(2), 41-62. Retrieved from *http://www.teqjournal.org/backvols/2005/32_2/09adamsetal.pdf*
2. Bens, I. (2012). *Facilitating with ease! Core skills for facilitators, team leaders and members, managers, consultants, and trainers*. San Francisco: Wiley.
3. Bens, I. (2012). *Facilitation: Your pocket guide to facilitation* (3rd Ed.). Salem, NH: GOAL-QPC.
4. De Jong, T., Cullity, M., Haig, Y., Sharp, S. and Spiers, S. (2011). Enabling Group-based Learning in Teacher Education: A Case Study of Student Experience. *Australian Journal of Teacher Education*, 36(5), 92-105. Retrieved from *http://ro.ecu.edu.au/ajte/vol36/iss5/7*
5. Di Pietro, K. (2004). The Effects of a Constructivist Intervention on Pre-Service Teachers. *Educational Technology and Society*, 7(1), 63-77. Retrieved from *http://www.ifets.info/journals/7_1/8.pdf*
6. Government of India. (1986). *National Policy of Education 1986*. New Delhi: Author.
7. Government of India. (2009). *National Knowledge Commission Report to the Nation 2006-2009*. New Delhi: Author.
8. *http://exforsys.com/career-center/facilitator/characteristics-of-excellent-facilitator.html*
9. *http://files.eric.ed.gov/fulltext/ED346421.pdf*
10. *http://teorije-ucenja.sesoi.fer.hr/doku.php?id=instructional_design:facilitation_theory*
11. *http://www.thefreedictionary.com/facilitate*
12. *http://www.dictionary.reference.com/browse/facilitate*
13. *http://www.holisticeducator.com/facilitator*
14. *http://www.csrees.usda.gov/nea/economics/fsll/publications/nj_standards.doc*
15. *http://www.sageofasheville.com/pub_downloads/CARL_ROGERS_AND_HUMANISTIC_EDUCATION.pdf*

16. *http://www.snhahec.org/TeachingLearningStyles.pdf*

17. Hunter, D. (2007). *The art of facilitation: The essentials for leading great meetings and creating group synergy*. Auckland: Random House.

18. Laird, D. (1985). *Approaches to training and development.* London: Addison Wesley.

19. Le Cornu, R. and Peters, J. (2005). Towards Constructivist Classrooms: the Role of Reflective Teacher. *Journal of Educational Enquiry*, 6(1), 50-64. Retrieved from *http://www.ojs.unisa.edu.au/index.php/EDEQ/article/view/501/371*

20. Metz, T. (2013*). The FAST Facilitative Session Leader*. Boca Raton, FL: Productivity Press.

21. NCERT. (2005). *National Curriculum Framework 2005*. New Delhi, India: Author.

22. NCERT. (2005). *Position Paper: National Focus Group on Teacher Education for Curriculum Renewal 2005*. New Delhi, India: Author.

23. NCTE. (2009). *National Curriculum Framework for Teacher Education*. New Delhi, India: Author.

24. Goble, N. (1977). *The Changing Role of the Teacher*. Paris: UNESCO.

25. Richardson, V. (1997). *Constructivist Teacher Education: Building new understanding.* London: The Falmer Press.

26. Richardson, V. (2003). Constructivist Pedagogy. *Teacher College Record*, 105(9), 1623-1640. New York: Columbia University.

27. Rogers, C. (1951). *Client Centered Therapy: Its Current Practice, Implications and Theory.* London: Constable.

28. Rogers, C. (1967). The Interpersonal Relationship in the Facilitation of Learning. In T. Leeper (Ed.), *Humanizing Education: The Person in the Process*, 1-18. St. Alexandria, VA: Association for Supervision and Curriculum Development. Retrieved from *http://www.mona.uwi.edu/idu/TrashLater/InterpersonalRelationships.rtf*

29. Rogers, C. R. (1969). *Freedom to learn: a view of what education might become*. Columbus, OH: Charles E. Merrill.

30. Rogers, C. (1969). *Freedom to Learn: A View of What Education Might Become*. Columbus, OH: Charles E. Merrill Publishing Company. Retrieved from *http://www.amazon.com/Freedom-Learn-Education-Might-Become/dp/0675095794*

31. Rogers, C. R. (1983). *Freedom to learn for the 80s*. Columbus, OH: Charles E. Merrill.

32. Rush, G. (2013). *The FoCuSeD™ Facilitator Guide*. Chicago: Professional Misfits.

33. Schwarz, R. (2005). Using facilitative skills in different roles. In R. Schwarz & A. Davidson (Eds.), *The skilled facilitator fieldbook: Tips, tools, and tested methods for consultants, facilitators, managers, trainers, and coaches, 27-32.* San Francisco: Jossey-Bass.

34. Sunnerborg, M. (2008). From Teacher to Facilitator. Retrieved from *http://www.learningsolutionsmag.com/articles/74/from-teacher-to-facilitator*

35. Tylee, J. (2010).*Teacher as facilitator- One of the f2f teacher's roles*. Retrieved from *http://www.education4skills.com/jtylee/teacher_as_facilitator.html*

36. UNESCO. (1996). Learning the Treasure Within. Paris, France: Author. Retrieved from *http://www.unesco.org/education/pdf/15_62.pdf*

37. Wiggins, G. and J. McTighe (2007). *Schooling by Design*. Alexandria. Virginia: Association for Supervision and Curriculum Development (ASCD). ❑

National Education Policy—2020: A Critical Analysis

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Education has been one of the foundational sectors in the national developmental planning. A National Education Policy (NEP) is a comprehensive framework to guide the development of education in the country.It is a document which provides a vision for education both at school and Higher education level. The first was promulgated in 1968 the second in 1986, which was later modified in 1992. And now in 2020, it has come with some major changes. A panel of experts led by the former ISRO chief Dr. Krishnaswamy Kasturirangan after a vivid study have come out with the National Education Policy 2020 which is a 60 page document refined from a 484 page draft.

The Major Changes Coming With NEP- 2020

- HRD Ministry is renamed as Ministry of Education
- GDP investment on education is planned to be raised from 3 per cent to at least 6 per cent. From 3-4 per cent of GDP to 6 per cent of GDP being invested into education is a very welcome change. It used to be quite low as compared to developed and developing countries.
- The policy aims at universalisation of education from pre-school to secondary level with 100 per cent Gross Enrollment Ratio (GER) in school education by 2030.
- The New Education Policy proposes to follow "5+3+3+4" design wherein the formal education of the child starts at the age of three. The stage from 3-8 years will be the foundation stage, that from 8-11 shall be named the preparatory stage, ages 11-14 the middle stage and a student from 14-18 years shall belong to the secondary stage. Free and compulsory education is thus extended from 6-14 to 3-18 years.
- According to the New Education Policy, from the age of 3, children will be part of Early Childhood Care and Education (ECCE). This would recruit teachers specially trained in the curriculum and pedagogy of ECCE.
- The mother tongue or local or regional language will be the medium of instruction in all schools up to Class 5 (preferably till Class 8 and beyond). Local language keeps students at advantage at understanding concepts.
- Vocational integration is planned to initiate from Class 6 onwards. Every child will come out of school adept in at least one skill. Skill development would be emphasized based on child's aptitudes and interest. Coding shall be taught from class 6. This may be with an aim to make the learners computer savvy by the time they finish schooling.
- Curriculum will integrate 21st Century Skills, Mathematical Thinking and Scientific temper. Attaining Foundational Learning & Numeracy Skills through National Mission by 2025. The NEP 2020 aims at uplifting the learner to achieve application level of learning. Academic, vocational and extra-curricular activities shall be given equal footing.
- According to the NEP, Sanskrit will be offered at all levels and foreign languages will be offered from the secondary school level. Other classical languages to be offered too. Inclusive & Equitable Education System by 2030.Universalisation from ECCE to Secondary Education by 2030, aligning with SDG4 (an educational goal that aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all)
- The new NEP focuses on overhauling the curriculum and making board exams easier. The board exams for class 10 and 12 will continue. However, they will primarily test core concepts, competencies application of knowledge rather than memorization. It has focused on a reduction in the syllabus to retain core essentials and has put thrust on experiential learning and critical thinking. Common Standards of Learning will be set in Public and Private Schools.
- A common guiding set of National Professional Standards for Teachers (NPST) will be developed by 2022, by the National Council for Teachers Education (NCTE). The policy also lays down that

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the NCTE will be restructured as a professional standard setting body (PSSB) under a General Education Council (GEC). Teacher education will be gradually moved into multidisciplinary colleges and universities by 2030. By 2030, the minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree. The 2-year B.Ed. programmes will also be offered only for those who have already obtained Bachelor's Degrees in other specialized subjects.

- It is proposed to set up a National Assessment Centre, PARAKH (Performance Assessment, Review and Analysis of Knowledge for Holistic Development) as a standard setting body under MHRD to set the norms, standards and guidelines for assessments across all recognized schools. PARAKH is also expected to conduct National Achievement Surveys to monitor achievement of learning outcomes and guide the boards of education to make learning suited to the requirements of contemporary India.
- Changes in report card: The progress card of all students for school-based assessment will be redesigned. It will be a holistic, 360-degree, multidimensional report card that will reflect in great detail the progress and uniqueness of each learner in the cognitive, affective, and psychomotor domains. The progress card will include self-assessment, peer assessment, and teacher assessment.
- NEP ends science-commerce-arts streams: NEP has eliminated the rigid separation of streams. Students will now be able to choose subjects like history and physics at the same time in class 11 and 12. Dilution of strict division of subjects shall be implemented.
- National Educational Technology Forum: An autonomous body, the National Educational Technology Forum (NETF), will be created to provide a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration.
- Holistic undergraduate programs to be provided. Multidisciplinary approach will be adopted. Interdisciplinary combination of subjects to be provided. It also proposes phasing out of all institutions offering single streams. It says that all universities and colleges must aim to become multidisciplinary by 2040. In order to foster research culture in higher education, The National Research Foundation will be set up as an apex body.
- NEP proposes to introduce a 4-year multidisciplinary UG programme with multiple entry and exit options. Under this proposed 4-year programme, students can exit, after one year with a certificate, after two years with a diploma, and after three years with a bachelor's degree making them eligible for masters. And after four years, the student will be eligible for a research. (M.Phil. to be discontinued) Four-year bachelor's programmes generally include a certain amount of research work. Therefore, the student will get deeper knowledge in the subject he/she decides to major in. After four years, a UG student could enter a research degree programme directly depending on how well she/he has performed.
- Academic Bank of Credit shall be established for digitally storing academic credits earned from different HEIs so that these can be transferred and counted towards final degree earned. The academic credit stored in a digital locker will be like a bank credit through which a student will be able to resume education after a break as specified by the higher education commission later. Students can opt for sabbatical for one year and once they join they can continue from where they had discontinued. The multiple entry and exit will be done through academic bank of credit.
- Many regulators in education like UGC, NCTE, AICTE etc. will be combined into a single regulatory body. Higher Education Commission of India (HECI) to be a sole body to administer Higher Education in India. (excluding Legal and Medical).
- Promoting libraries: A National Book Promotion Policy will be formulated, and extensive initiatives will be undertaken to ensure the availability, accessibility, quality, and readership of books across geographies, languages, levels, and genres.
- Foreign universities in India: NEP has paved the way for foreign universities to set up campuses in India. Internationalisation of education will be facilitated through both institutional collaborations as well as student and faculty mobility. This will allow the entry of top world-ranked universities to open campuses in India.

- Common entrance exam for college admission: The National Testing Agency (NTA) will conduct entrance examinations for admissions to universities across the country. The NTA already conducts the all-India engineering entrance exam --JEE Main, NEET, UGC NET, and others. As per the NEP 2020, the entrance exam to be conducted by the NTA for admission to universities and colleges will be optional.

Positives in NEP- 2020

- The 86th Amendment made the right to education an enforceable fundamental right (Article 21A). Subsequently, the Right to Education Act, 2009 provides for universal education to all children between ages 6 and 14. Right to education is now changed from 6-14 to 3-18 years
- More fund is allotted for Early Childhood Care and Education. Special programme is to be designed to increase literacy in children.
- The present choice-based system opens the playfield for the students and is not just linear but is also horizontal. These flexi possibilities that allow the pursuits of vocational and non-vocational subjects alongside co-curricular and extra-curricular activities may reduce school dropouts and multiple points of entry will make it easy for some dropouts to enter the system. There will be bag less days for children wherein they will undergo training on different vocations from neighbouring skilled professionals.
- It suggests a clear student-centric approach in the entire system and also appears to make room for critical thinking, holistic approach, inquiry-based, discovery-based, discussion-based and analysis-based learning.
- Besides, it envisages new modes of evaluations to overcome rote learning, where assimilation of concepts and their applications are emphasized.
- Rote learning discouraged and deep understanding of the concepts and application level of achievement is focussed. The new NEP may probably train our students to fix some common real life problems.
- Top 100 foreign colleges to be permitted to set up their campuses in India, so our students can pursue their education while being in India.
- In next 10 years, vocational education will be integrated into all schools and HEIs in a phased manner. This may pave way for better employability among the student community. By 2025, 50 per cent of learners in the school as well as HEI will get an exposure of vocational education. This demands a phenomenal change in the supply of higher education.
- Gross Enrolment Ratio in higher education to be raised to 50 per cent by 2035. Also, 3.5 crore seats to be added in higher education. The current Gross Enrollment Ratio (GER) in higher education is 26.3 per cent. This suggests that there has to be a great amount of enhancement in the provisions of HEIs, the infrastructure, the qualified personnel, the administrative personnel, and all the allied mandatory issues required for issues.
- The proposed examination system will be more robust. However the existing education system is too exam centric. Board exams will be given lesser emphasis and hence may become more stress free. Schools will have two exams rather than a single final exam.

Negatives of NEP–2020

- The NEP 2020, being a visionary document it remains vague and has several ambiguities and loose ends that are confusing if not disturbing. The new system will require improved and expanded infrastructure in the schools to run its choice-based modules as well as make room for vocational courses like carpentry, electric work, gardening, and pottery. In order that the learning outcomes of the student finds a place in the job market, a thorough reshuffling and remodeling of selection criteria in the job markets needs to be made. The challenges in employability is on the high in the present conditions.
- The 42nd Amendment to the constitution moved education from state list to concurrent list-making way for overall standardization on the national level. In this sense, some state governments call it anti-democratic and are apprehensive and dissatisfied at the apparently power centralized form of NEP-2020.
- Options of having home language or regional language up to class 5 may in some cases bring along some serious issues. For example, the

children of the central government employees who often get transferred to other states, will be struggling to catch up with new languages at each transfer. English learning should not be discouraged. It is because our students are conversant with English that our students are able to compete and succeed in the US, Europe and other western countries.

- It is discussed by some states as an anti-democratic NEP because education being in the concurrent list, which means that it is in state list as well as central list, must give more space for the state governments to have their share of choices. But this policy apparently promotes power centralization.
- The policy is more theoretical than practical. The implementation is a challenge. There is dearth of teachers. How to carry out vocational training for children. Bagless days for children. How do we catch up with skilled workers and lack of infrastructure in schools. Coding – lack of devices with learners. Nothing is mentioned with regard to providing devices and accessibility to the learners belonging to the economically weaker sections of the society.

Apprehensions

- Will the commercialization and privatization of education be curbed?
- Allocation for the Economically Weaker Sections is not mentioned at all. Is the early allocation too being planned to be withdrawn? No concrete provisions is seen for the economically poor students and the first generation learners
- By 2030, the minimum educational qualification of teacher's will be a four year integrated B.Ed. Degree. While multiple entry and exit system is initialized in degree courses, the functioning of four year integrated B.Ed. courses raises high degrees of apprehension.
- As the RTE is extended, will the specifications and conditions of infrastructure facilities set in 2009 , be diluted?
- Not much concern is shown for the marginalized, Dalit, and the *Adivasi* folks.
- Will there be any objectivity and transparency in the formation and functioning of the single unified body that replaces University Grants Commission (UGC), All India Council for Technical Education (AICTE) and National Curriculum Framework for Teacher Education (NCFTE). How far will the implementation comply with the frame of NEP.

Conclusion

The new National Educational Policy or NEP-2020 is both visionary and ambitious. Much of its success will depend on its execution. If the Gross domestic product (GDP) investment is objectively executed, India will witness a real growth in the infrastructure and employment of qualified personnel both at school and higher education level. One of its strengths is its multi-disciplinarity and availability of choice based pursuits to the students at the level of the school. This has opened several entry points and exit points for the students within the system. The government has set a target of 2040 to implement the entire policy. If implemented in its true vision, the new structure can bring India at par with the leading countries of the world.

Reference:

1. GoI (2020). National Education Policy, 2020 MHRD Government of India. ❑

The Role of Teachers and Major Moves Impacting Teachers in Implementing National Education Policy—2020

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The National Education Policy (NEP) was launched on 29th July, 2020. Its draft was prepared by a panel of experts led by former Indian Space Research Organisation (ISRO) Chief Padma Vibhushan K Kasturirangan. The NEP— 2020 aims at making "India a global knowledge superpower". The global education development agenda reflected in the Goal 4 (SDG4) of the 2030 Agenda for Sustainable Development, adopted by India in 2015 - seeks to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030. The earlier NEP was framed in 1986 and revised in 1992.

Based on the report and recommendations of the Kothari Commission (1964–1966), Prime Minister Indira Gandhi announced the first National Policy on Education in 1968, which called for a "radical restructuring" and proposed equal educational opportunities in order to achieve national integration and greater cultural and economic development. The policy recognized the contribution of teachers in national development and expected that their emoluments and other service conditions should be adequate and satisfied having regard to their qualifications and responsibilities (National Policy on Education 1968, 1968).

The Ministry of Education was renamed as the MHRD in 1985 during the tenure of then Prime Minister Rajiv Gandhi and P V Narasimha Rao was appointed as the first HRD Minister (who later on served as the Prime Minister during 1991-1996). In 1986, the government led by Prime Minister, Rajiv Gandhi introduced the second National Policy on Education. Based on the recommendations of Acharya Ramamurti Committee Report (Dec.1990) and Shri. N. Janardhana Reddy Committee Report (January, 1992), the policy was modified in 1992 by the PM P V Narasimha Rao government (Dept. of Education, MHRD, GOI, 1998). To bring the focus back on education and learning, the Ministry of Human Resource Development (MHRD) was re-designated as the Ministry of Education (MoE) as per NEP– 2020.

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Objectives and Scope of the Study

The present study aims to study the Role of Teachers and major moves impacting teachers in Implementing National Education Policy 2020 and its impact on teachers. For effectively studying the background of this, the proposed major moves related to teachers and outcomes of National Policy on Education (NPE), 1986 are also discussed. The scope of the study is limited to selected teacher related action points in NPE–2020.

National Policy on Education, 1986 and Teachers

The Programme of Action (PoA) 1992 spelt out strategic plans for the National Policy on Education 1986. The then present system does not accord teachers a proper economic and social status, opportunities for professional and Career development, initiative for innovation and creative work, proper orientation in concept, techniques and value System to fulfill their role and responsibilities. Motivation of teachers is important for implementation of the policy. In order to achieve this, it was proposed:

a) To organise specially designed orientation programmes in teaching methodologies, pedagogy, educational psychology, etc., for all new entrants at the level of lecturers.

b) To organise refresher courses for serving teachers to cover every teacher at least once in 5 years.

c) To organise orientation programmes by using the internal resources of universities and by bringing a number of colleges together.

d) To encourage teachers to participate in seminars, symposia, etc.

In order to achieve the above, a scheme of setting up Academic Staff Colleges (ASCs) in suitable universities in the country was initiated by the University Grants Commission. At present, ASCs are renamed as Human Resource Development Centre (HRDC). They have played a pivot role in orienting newly appointed teachers through Orientation Courses

(OCs), updating the in-service teachers through refresher courses (RCs), Short Term Courses (STCs), workshops etc.

As per the Programme of Action (1992) to implement the National Policy on Education 1986, Teachers have to be recruited on the basis of a common qualifying test the details of which will be formulated by the UGC. Methodologies will be developed for evaluation of teacher performance through self-appraisal, through peer groups, and also by students. Career advancement of teachers will be linked with professional development and performance appraisal. The Management structures of universities will be remodeled to provide opportunities for greater participation of teachers at all levels in academic administration (Government of India, 1992).

The University Grants Commission (UGC), while prescribing the revised pay scale for teachers in colleges and in universities, in accordance with the Fourth Pay Commission (1986), has prescribed that the person being appointed as Assistant Professor shall qualify for the new scales provided he/she clears, the Eligibility Test, to be conducted by the U.G.C., in addition to the minimum qualifications already prescribed. The Government of India, through its notification dated 22nd July, 1988 entrusted the task of conducting the eligibility test for lectureship to UGC. Consequently, UGC conducted the first National Eligibility Test, common to both eligibility for Lectureship and Junior Research Fellowship in two parts, that is, in December 1989 and in March, 1990 (About the NET).

On behalf of University Grants Commission (UGC), the National Eligibility Test (NET) is conducted for determining the eligibility of Indian nationals for the eligibility for Assistant Professor only or Junior Research Fellowship & Assistant Professor both, in Indian Universities and Colleges. Since Dec 2018 onwards, the UGC- NET is being conducted by the National Testing Agency (NTA). The award of JRF and or Eligibility for Assistant Professor depends on the aggregate performance of the candidate in Paper-I and paper-II of UGC-NET (UGC - NET , 2018).

In view of the fact that the number of candidates who are required to be qualified for being appointed as Assistant Professors, under the new pay scales, is fairly large, the UGC has authorised the State Governments or the State Agencies on behalf of the State Governments to conduct the State Eligibility Test (SET) for Assistant Professor, provided, the SET is duly accredited by the UGC (SET exam, 1995).

The PoA, 1992 advocated the establishment of an independent national accreditation agency. Consequently, the National Assessment and Accreditation Council (NAAC) was established in 1994 as an autonomous institution of the University Grants Commission (UGC) with its Head Quarter in Bengaluru. The mandate of NAAC as reflected in its vision statement is in making quality assurance an integral part of the functioning of Higher Education Institutions (HEIs). The proposed teacher related major moves and outcomes- NPE,1986 are given in Table-1.

Table-1: Proposed Teacher Related Major Moves and Outcomes- NPE, 1986

Proposed moves	Outcomes
Scheme of setting up Academic Staff Colleges (ASCs)	ASCs set up in universities since 1987. At present, 66 HRDCs are operational across 26 states.
Recruitment of teachers on the basis of a common qualifying test	UGC-NET started in 1989 for eligibility for Lectureship and Junior Research Fellowship (JRF). With consistency of more than 3 decades, it has evolved itself as a gateway to career in higher education.
Establishment of an independent National accreditation agency	NAAC was established in 1994 as an autonomous institution of the UGC. Upto 31/07/2020, it has accredited 8530 HEIs.

National Education Policy, 2020 and Teachers

In the introductory part of the policy the teachers' importance is emphasized. It states—The teacher must be at the centre of the fundamental reforms in the education system. The new education policy must help re-establish teachers, at all levels, as the most respected and essential members of our society, because they truly shape our next generation of citizens. It must do everything to empower teachers and help them to do their job as effectively as possible. The new education policy must help recruit the very best and brightest to enter the teaching profession at all levels, by ensuring livelihood, respect, dignity, and autonomy, while also instilling in the system

basic methods of quality control and accountability (National Education Policy 2020, 2020).

In Part I of School Education, a separate sub-chapter is devoted to 'Teachers' and Part II of Higher Education, there is a separate sub-chapter for 'Teacher Education'. The fundamental principles guiding the education system, aim to sensitizing teachers as well as parents to promote each student's holistic development in both academic and non-academic spheres. It keeps the teachers and faculty as the heart of the learning process with their recruitment, continuous professional development, positive working environments and service conditions. As per the NPE, the teacher related aspects are given below:

Recruitment of Teachers

At the Early Childhood Care and Education which is referred as the Foundation of Learning, there will be recruitment of teachers specially trained in the curriculum and pedagogy of ECCE, for which curricular/pedagogical framework will be developed by NCERT. Teacher vacancies will be filled at the earliest, in a time-bound manner-especially in disadvantaged areas and areas with large pupil-to-teacher ratios or high rates of illiteracy. Special attention will be given to employing local teachers or those with familiarity with local languages. A pupil-teacher ratio (PTR) of under 30:1 will be ensured at the level of each school; areas having large numbers of socio-economically disadvantaged students will aim for a PTR of under 25:1. Teachers will be trained, encouraged, and supported - with continuous professional development - to impart foundational literacy and numeracy.

Training for Teachers

With the help of Digital Infrastructure for Knowledge Sharing (DIKSHA), Technological interventions to serve as aids to teachers and to help bridge any language barriers that may exist between teachers and students, will be piloted and implemented. The requirement of a system of incentives is pointed out, for deploying teachers with knowledge of the local language to areas with high dropout rates, as well as overhauling the curriculum to make it more engaging and useful. Teachers will be encouraged to use a bilingual approach, including bilingual teaching-learning materials, with those students whose home language may be different from the medium of instruction. There will be a major effort from both the Central and State governments to invest in large numbers of language teachers in all regional languages around the country, and, in particular, for all languages mentioned in the Eighth Schedule of the Constitution of India.

Expectations from Teachers

To support gifted students and students with special talents, teacher education will include methods for the recognition and fostering of such student talents and interests. Teachers will aim to encourage students with singular interests and/or talents in the classroom by giving them supplementary enrichment material and guidance and encouragement.

Recruitment and Deployment

The policy points out the fact that the quality of teacher education, recruitment, deployment, service conditions, and empowerment of teachers is not where it should be, and consequently the quality and motivation of teachers does not reach the desired standards. The policy proposes to have a large number of merit-based scholarships across the country for studying quality 4-year integrated B.Ed. programmes, especially for rural areas. It wants to reduce excessive teacher transfers and ensuring transparency in case of inevitable transfers. It proposes to Strengthening of the Teacher Eligibility Tests (TETs), ensuring an adequate number of teachers across subjects. A technology-based comprehensive teacher-requirement planning forecasting exercise will be conducted by each state to assess expected subject-wise teacher vacancies over the next two decades.

Service Environment and Culture

Adequate and safe infrastructure to ensure decent and pleasant service conditions. The creation of school complexes could go a long way towards building vibrant teacher communities. The policy mentions to prevent the large amounts of time spent currently by teachers on non-teaching activities. Teachers will not be engaged any longer in work that is not directly related to teaching; more autonomy in choosing aspects of pedagogy.

Continuous Professional Development (CPD)

Each teacher will be expected to participate in at least 50 hours of CPD opportunities every year for their own professional development, driven by their own interests. CPD opportunities will, in particular, systematically cover the latest pedagogies regarding foundational literacy and numeracy, formative

and adaptive assessment of learning outcomes, competency-based learning, and related pedagogies, such as experiential learning, arts-integrated, sports-integrated, and storytelling-based approaches, etc.

Career Management and Progression (CMP)

A robust merit-based structure of tenure, promotion, and salary structure will be developed, with multiple levels within each teacher stage that incentivizes and recognizes outstanding teachers. It will be ensured that career growth (in terms of tenure, promotions, salary increases, etc.) is available to teachers within a single school stage. Outstanding teachers with demonstrated leadership and management skills would be trained over time to take on academic leadership positions in schools, school complexes, Block Resource Centres (BRCs), Cluster Resource Centres (CRCs), Block Institutes of Teacher Education (BITEs), District Institutes of Education & Training (DIETs) as well as relevant government departments.

Professional Standards for Teachers

National Professional Standards for Teachers (NPST) will be developed by 2022, by the National Council for Teacher Education in its restructured new form as a Professional Standard Setting Body (PSSB) under the General Education Council (GEC), in consultation with NCERT, SCERTs, teachers from across levels and regions, expert organizations in teacher preparation and development, expert bodies in vocational education, and higher education institutions. The standards would cover expectations of the role of the teachers at different levels of expertise/stage, and the competencies required for that stage. Promotions and salary increases will not occur based on the length of tenure or seniority, but only on the basis of such appraisal. The professional standards will be reviewed and revised in 2030, and thereafter every ten years, on the basis of rigorous empirical analysis of the efficacy of the system.

Special Educators

Special educators require not only subject-teaching knowledge and understanding of subject-related aims of education, but also the relevant skills for understanding of special requirements of children such as children with disabilities/*Divyang* children. Such areas could be developed as secondary specializations for subject teachers or generalist teachers, during or after pre-service teacher preparation.

Approach to Teacher Education

Proposed B.Ed. Programmes

By 2030, the minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree that teaches a range of knowledge content and pedagogy and includes strong practicum training in the form of student-teaching at local schools. The 2-year B.Ed. programmes will also be offered, by the same multidisciplinary institutions offering the 4-year integrated B.Ed., and will be intended only for those who have already obtained Bachelor's Degrees in other specialized subjects. These B.Ed. programmes may also be suitably adapted as 1-year B.Ed. programmes, and will be offered only to those who have completed the equivalent of 4-year multidisciplinary Bachelor 's Degrees or who have obtained a Master's degree in a specialty and wish to become a subject teacher in that specialty.

Table 2: Proposed B.Ed. Programmes as per NEP–2020

1. B.Ed. programmes	2. Eligibility
3. 4-year integrated B.Ed.	4. 12th class
5. 2-year B.Ed. programme	6.Bachelor's Degree in other specialized subjects
7. 1-year B.Ed. programme	8. 4-year multidisciplinary Bachelor 's Degree or a Master's degree in a specialty
9. B.Ed. programmes in blended or ODL mode	10. Students in remote or difficult-to-access locations and also to in-service teachers

There will be a provision for special shorter local teacher education programmes and Shorter post-B.Ed. certification courses The proposed B.Ed. Programmes as per NEP- 2020 is given in Table 2. By 2021, a new and comprehensive National Curriculum Framework for Teacher Education, NCFTE 2021, will be formulated by the NCTE in consultation with NCERT, based on the principles of this National Education Policy 2020. In order to fully restore the integrity of the teacher education system, stringent action will be taken against substandard stand-alone Teacher Education Institutions (TEIs) running in the country, including shutting them down, if required. In order to maintain uniform standards for teacher education, the admission to pre-service teacher preparation programmes shall be through suitable subject and aptitude tests conducted by the National Testing Agency, and shall be standardized keeping

in view the linguistic and cultural diversity of the country.

Ph.D. Programmes

All fresh Ph.D. entrants, irrespective of discipline, will be required to take credit-based courses in teaching/education/pedagogy/writing related to their chosen Ph.D subject during their doctoral training period. Ph.D students will also have a minimum number of hours of actual teaching experience gathered through teaching assistantships and other means. Ph.D. programmes at universities around the country will be re-oriented for this purpose.

In-service Continuous Professional Development

In-service continuous professional development for college and university teachers will continue through the existing institutional arrangements and ongoing initiatives; these will be strengthened and substantially expanded to meet the needs of enriched teaching-learning processes for quality education. The use of technology platforms such as SWAYAM/ DIKSHA for online training of teachers will be encouraged, so that standardized training programmes can be administered to large numbers of teachers within a short span of time.

National Mission for Mentoring

A National Mission for Mentoring shall be established, with a large pool of outstanding senior/ retired faculty, including those with the ability to teach in Indian languages, who would be willing to provide short and long-term mentoring/professional support to university/college teachers. There has been a severe scarcity of skilled language teachers in India, despite various measures being taken. University and college departments should develop a large cadre of high-quality language teachers - as well as teachers of art, music, philosophy and writing - who will be needed around the country to carry out this Policy.

Departments of Sanskrit

Departments of Sanskrit that conduct teaching and outstanding interdisciplinary research on Sanskrit and Sanskrit Knowledge Systems will be established/ strengthened across the new multidisciplinary higher education system. Sanskrit teachers in large numbers will be professionalized across the country in mission mode through the offering of 4-year integrated multidisciplinary B.Ed. dual degrees in education and Sanskrit.

Use of the ICT

A rich variety of educational software, for all the above purposes, will be developed and made available for students and teachers at all levels. Teaching-learning e-content will continue to be developed by all States in all regional languages, as well as by the NCERT, CIET, CBSE, NIOS, and other bodies/institutions, and will be uploaded onto the DIKSHA platform. This platform may also be utilized for Teacher's Professional Development through e-content. Suitable equipment will be made available to teachers at schools so that teachers can suitably integrate e-contents into teaching-learning practices. Technology-based education platforms, such as DIKSHA/SWAYAM, will be better integrated across school and higher education, and will include ratings/reviews by users, so as to enable content developers create user friendly and qualitative content. Teachers require suitable training and development to be effective online educators. It cannot be assumed that a good teacher in a traditional classroom will automatically be a good teacher in an online classroom.

Training and Incentives for Teachers

Teachers will undergo rigorous training in learner-centric pedagogy and on how to become high-quality online content creators themselves using online teaching platforms and tools. There will be emphasis on the teacher's role in facilitating active student engagement with the content and with each other. In addition to one-time expenditures, primarily related to infrastructure and resources, this Policy identifies some key long-term thrust areas for financing to cultivate an education system. Investing in teacher education and continuing professional development of teachers is one of them.

Implementation Plan of the Policy and Impact on Teachers' Role

The proposed implementation plan of the policy in which actionable points and activities are mentioned, also lists activities regarding the Chapter 13-Motivated, Energized, and Capable Faculty and Chapter 15-Teacher Education (Implementation Plan, NEP 2020, 2020). The actionable points and activities of NEP- 2020 related with teachers are given in Table 3. The expected impact on teachers is discussed below:

Green Line of the Impact

1. **Professional Standards for Teachers-** The introduction of Professional standards for teachers will clearly outline the role and responsibility of teachers, competencies required for teachers and necessary pre-service training allowing aspiring and current teachers to monitor their own capability and development.
2. **Reducing Burden of Non-academic Work-** There will be reduction in time spent on non-academic activities. The teachers may devote more time for student support and research related activities.
3. **Vertical Mobility of Teachers**- Currently teacher recruitment, promotion and tenure is non-transparent or based on seniority. The introduction of NEP will provide with a clear process through which recruitment, and promotions will take place. It will incentivize teachers to perform better and increase teacher motivation.
4. **Increased Demand for Trained Vocational Instructors and Master Trainers-** The mandate for adequate number of teachers particularly in vocational education will increase demand for trained vocational instructors and master trainers.
5. **Increased Supply of Quality Trained Instructors-** The inclusion of NCFTE in teacher education curricula for vocational education will increase the quality and number of trained instructors.

Red Line of the Impact

1. **More Thrust on Privatization-** There are many provisions in favour of the privatization of higher education. India has cautiously adopted mixed economy with the co-existence of the public and private sector. Increased exposure to the private sector at the cost of government owned and aided colleges and universities may pave way for monopoly of the private sector and related evils.
2. **Recruitment of Teachers-** The POA 1992 planned for Efforts made to move towards the objective of making recruitment of teachers on all-India basis in consultation with the State Governments. It did not materialize. The recruitment of teachers involves many monetary manipulations in various states. The NEP 2020 is silent in this regard.
3. **Job Security of Teachers-** In most of the private colleges and universities majority teachers are appointed temporary on tenure based contracts. They are normally appointed on 10 or 11 months contracts which may be renewed with a break of minimum 15 days or a month. They are denied the proper channel appointments, allowances, service books and other facilities. There should be a check on such practices.
4. **Database of Teachers-** In absence of the central database of teachers, teachers service conditions are compromised in many ways. Appointing temporary teachers to save money and depriving their rights is a common phenomenon in government and private institutes. The policy should develop a mechanism to curb these practices.
5. **Teachers of the Merged HEIs- A** new vision and architecture for higher education has been envisaged with large, well-resourced, vibrant multidisciplinary institutions. The current 800 universities and 40,000 colleges will be consolidated into about 15,000 excellent institutions. What will be the fate of the teachers of the merged HEIs? Whether their services will be terminated or transferred or resumed after due performance appraisal as per new requirements? On one hand the policy aims to stop excessive

Table 3: Actionable Points and Activities of NEP- 2020 Related with Teachers

Actionable points		Activities	
NEP Para No	**Particulars**	**NEP Para No**	**Particulars**
Chapter 10 : Institutional Restructuring And Consolidation			
Para 10.8	Medium of instruction in local/Indian languages/bilingually	Para 10.8	Teaching learning material in local languages & recruitment of teachers in local language
Chapter 13: Motivated, Energized, and Capable Faculty			

Para 13.2	Initiatives to achieve the best, motivated, and capable faculty in HEIs.	Para 13.2	As the most basic step, all HEIs will be equipped with the basic infrastructure and facilities, including clean drinking water, clean working toilets, blackboards, offices, teaching supplies, libraries, labs, and pleasant classroom spaces and campuses.
Para 13.3	Teaching duties also will not be excessive, and student- teacher ratios not too high.	Para 13.3	Faculty will be appointed to individual institutions and generally not be transferable across institutions so that they may feel truly invested in, connected to, and committed to their institution and community.
Para 13.4	Empowering the faculty to conduct innovative teaching, research, and service	Para 13.4	Faculty will be given the freedom to design their own curricular and pedagogical approaches within the approved framework, including textbook and reading material selections, assignments, and assessments.
Para 13.5	Incentivizing the excellence of faculty	Para 13.5	Excellence will be further incentivized through appropriate rewards, promotions, recognitions, and movement into institutional leadership. Meanwhile, faculty not
Chapter 15 :Teacher Education			
Paras 15.3	All multidisciplinary universities and colleges - will aim to establish, education departments, will also run B.Ed. programmes, in collaboration with other departments.	Paras 15.3& 15.4	Establishment of Education Department in HEIs.
		Para 15.4	All stand-alone TEIs will be required to convert to multidisciplinary institutions by 2030, since they will have to offer the 4-year integrated teacher preparation programme.
		Paras 15.2 &	Regulatory System shall be empowered to take stringent action against substandard and dysfunctional teacher education institutions (TEIs), after giving one year for remedy of the breaches.
Para 15.5	The 4-year integrated B.Ed. offered by such multidisciplinary HEIs will, by 2030, become the minimal degree qualification for school teachers.	Para 15.5	4year B.Ed degree as minimal qualification for school teachers
		Para 15.5	The HEI offering the 4-year integrated B.Ed. may also run a 2-year B.Ed., for students who have already received a Bachelor's degree in a specialized subject. A 1- year B.Ed. may also be offered for candidates who have received a 4-year undergraduate degree in a specialized subject.

		Para 15.5	The 4-year integrated B.Ed. will be a dual-major holistic Bachelor's degree, in Education as well as a specialized subject such as a language, history, music, mathematics, computer science, chemistry, economics, art, physical education, etc. Beyond the Teaching of cutting-edge pedagogy, the teacher education will include grounding in sociology, history, science, psychology, early childhood care and education, foundational literacy and numeracy, knowledge of India and its values/ethos/art/traditions, and more.
		Para 15.6	Each higher education institution will have a network of government and private schools to work closely with, where potential teachers will student-teach along with participating in other activities Such as community service, adult and vocational education etc.
Para 15.7	Uniform standards for teacher education	Para 15.7	Admission to pre-service teacher preparation programmes shall be through suitable subject and aptitude tests conducted by the National Testing Agency, and shall be standardized keeping in view the linguistic and cultural diversity of the country.
Para 15.5	Scholarships for meritorious students will be established for the purpose of attracting outstanding candidates to the 4- year, 2-year, and 1- year B.Ed. programmes.	Para 15.5	Scholarships for B.Ed. Students
Para 15.8	Departments of Education will necessarily aim to be diverse and but teaching/field/research experience will be highly valued.	Para 15.8	Faculty with training in areas of social sciences that are directly relevant to school education e.g., psychology, child development, linguistics, sociology, philosophy, economics, and political science as well as from science education, mathematics education, social science education, and language education programmes will be attracted and retained in teacher education institutions, to strengthen multidisciplinary education of teachers and provide rigour in conceptual development.
Para 15.10	In-service continuous professional development for college and university teachers will be strengthened.	Para 15.10	The use of technology platforms such as SWAYAM/DIKSHA for online training of teachers will be encouraged
		Para 15.11	Providing short and long-term mentoring/ professional support to university/college teachers.

Para 15.9	All fresh Ph.D. entrants, irrespective of discipline, will be required to take credit- based courses in teaching/ education/pedagogy/writing related to their chosen PhD subject during their doctoral training period.	Para 15.9	Exposure to pedagogical practices, designing curriculum, credible evaluation systems, communication, and so on will be ensured since many research scholars will go on to become faculty or public representatives/ communicators of their chosen disciplines. Ph.D. students will also have a minimum number of hours of actual teaching experience gathered through teaching assistantships and other means. Ph.D. programmes at universities around the country will be re-oriented for this purpose.

transfers of teachers and in this case, they may increase.

6. **National Research Foundation**–NRF is originally proposed in POA, 1992 has not come into existence in last 3 decades. It was to be set up to bring about better coordination, overview and quality control. This Foundation will fund all research programmes presently supported by Central Government except those directly related to the missions of the existing agencies. The National Research Foundation will be an independent body set up by pooling together, and subsequently augmenting, the resources now being utilised by various agencies. (Government of India, 1992) The NEP- 2020 reiterates the NRF concept.

Conclusion

The defined career progression in NEP–2020 will provide teachers the opportunity to leverage career progression opportunities. There will be minimal career gaps and continuous learning opportunities. Rationalization of teaching duties and greater autonomy for designing curricular and pedagogical approaches will lead to improved teaching outcomes. Reduced focus on non-academic work will provide time for student support and research activities.

The Ministry of Education should create a permanent real-time dynamic and credible database/ MIS of all teachers in the country. The details of teachers' appointments, qualifications, salaries, promotions, experience etc. should be recorded each year. It should be ensured that every teacher should be covered under GPF/DCPS/NPS as the case may be. The service books of all permanent and temporary teachers should be compulsory maintained in duplicate, the original in office with a copy given to the teacher.

The National Education Policy 2020 is a progressive policy which aims to address many developmental imperatives of our country. It is expected to put India on track to attain Goal#4 of the 2030 agenda for sustainable development by ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all in the next decade. It is imperative to prioritize the initiatives and implement the NEP in a gradual manner (KPMG, August 2020). Collaborative efforts are needed, both at centre and state level, with significant involvement of private sector stakeholders in close consultation with educational institutes, teachers, technology partners and industry. There is a need to support these initiatives with enough budgets at all levels.

References

1. GoI. (1998). *National Policy on Education, 1986.* Department of Education, MHRD, Retrieved October 26, 2020, from MHRD: *https://www.mhrd.gov.in/sites/upload_files/mhrd/files/document-reports/NPE86-mod92.pdf*
2. Government of India. (1992). *National Policy on Education 1986-POA 1992.* New Delhi: MHRD, GoI.
3. (2020). *Implementation Plan, NEP, 2020.* New Delhi: MInistry of Education, Government of India.
4. KPMG. (August 2020). *Impact of NEP, 2020 and Opportunities for Stakeholders.* Mumbai: KPMG.
5. GoI(2020). *National Education Policy, 2020.* New Delhi: Ministry of Human Resource Development, Government of India.
6. *National Policy on Education, 1968.* (1968). Retrieved on October 26, 2020, from Department of Education: *https://education.gov.in/sites/upload_files/mhrd/files/document-reports/NPE-1968.pdf*
7. *SET Examination* (1995). Retrieved on October 25, 2020, from Savitribai Phule Pune University: *https://setexam.unipune.ac.in/*
8. *UGC -NET* (2018). Retrieved on October 25, 2020, from National Testing Agency: *https://ugcnet.nta.nic.in/webinfo/public/home.aspx* ❑

Comprehensive Liberal Education for Developing Human Capabilities

Krishnaswamy Kasturirangan, Former Chairman, Indian Space Research Organisation and Professor Emeritus, National Institute of Advanced Studies, Bangalore delivered the Convocation at the 12th Convocation Address of TERI School of Advanced Studies, New Delhi on November 14, 2019. He said, A comprehensive liberal education develops all capacities of human beings, intellectual, aesthetics, social, physical, emotional and moral, in an integrated manner. This is turn helps to develop critical thinking, improve communication skills and foster aesthetic sensibilities. The subjects covered will include Visual and Performing Arts, Humanities and Social Sciences, Science, Technology, Engineering and Mathematics, Languages, Sports, etc. Liberal Education will encompass cultivating scientific Temper & Methods, knowledge of History/ Diversity, Constitutional values and practices, Ethical reasoning and morals and Social responsibility. Liberal education will also focus on connect to society and include community service. In short, a liberal education will prepare one to be a thinking citizen for a lifetime." Excerpts

I am delighted to be here today evening with all of you on this august occasion of the 12th Convocation of TERI School of Advanced Studies (TERI SAS). TERI SAS owes its origin to The Energy Research Institute (TERI) and is primarily driven in its planning and implementation by the interest of TERI in areas such as research, consultancy and outreach. I am happy to note that a deemed University status has been accorded to this institution and currently, is actively engaged in a mission to create knowledge and capacity in various areas related to sustainable development. Needless to emphasise, TERI itself is the outcome of the Vision of its legendary Founder, Mr Darbari S Seth, one of the doyens of the corporate sector. His interests went well beyond his core responsibilities, pioneering several initiatives of social relevance and national importance.

Your Chancellor, Dr Shailesh Nayak, is a well-known Scientist Administrator, whose interests are broad-based including use of space systems for natural resources assessment, ocean sciences and geophysics, issues of environment, as well as creating multi-disciplinary programs involving problems at the intersection of natural sciences, social sciences and humanities.

His Vision and ideas, I am sure will guide the destiny of TERI SAS in the years to come, taking it to higher levels of performance and achievements. I wish Dr Nayak, the Vice Chancellor and the entire erudite staff supporting TERI SAS, very many accomplishments, recognitions and accolades in the future.

Dear students, let me warmly congratulate all those of you who have the proud privilege of graduating from this esteemed institution today. My best wishes go with you for your success and for achieving what you have been aspiring and dreaming. The spirit of competition and determination with which you met the challenges of the demanding ecosystem of this alma mater of yours is sure to help you move ahead to realize your ambitions and aspirations with confidence. To have had the opportunity to study at this institution of higher learning is a matter of privilege to each one of you. May the value system that this institution has instilled in you inspire you to set high standards in all your future endeavors. High and noble aspirations are indeed the guiding stars in your journey towards achieving perfection and realizing your true potential.

Even at the cost of repetition, I would like to remind my young friends about the contemporariness and crucial nature of the subjects and themes in which this institute undertakes academic and research programs. The subject matter encompasses Energy and Environment, Natural Resources, Water studies, Biotechnology, as well as Climate science. The unique aspects of the related courses stems from the fact, on one side, they adopt multidisciplinary and interdisciplinary approaches and on the other side they address the associated elements of social sciences, economics, policy, legal framework and management. Needless to emphasize, a comprehensive understanding of the different facets of a particular issue can facilitate chartering the right directions in

developing strategies for addressing these, leading to the improvement in the quality of life of an individual citizen and creation of a balanced society.

It is obvious that the subject matter that this institute deals with can have substantial inputs, that today space based earth observation satellite systems are capable of generating. In the last 50 years, the Indian space program under Indian Space Research Organisation (ISRO), has established a constellation of earth observation and communication satellite systems. These satellites are capable of providing timely, precise and accurate information on earth resources, both renewable and non-renewable, besides data of relevance to weather and climatological systems. In a sense, we can proudly claim about our capabilities in these areas as one of most versatile and sophisticated in nature anywhere in the world. In providing a brief account of what our Earth observation systems render as application services and which have connectivity with many of the themes that are adopted for academic pursuits in this institution, I am only reiterating the importance of consolidating the linkages between the strength of India's space endeavours in the creation of data and information, modelling and simulation and such other outcomes to the broader aspects of economics, policies and the legal framework that TERI SAS pursues. In other words, the crucial step of transformation-data/ information to decision support.

Among the many interesting applications to which space data is deployed in India, some of the more important ones include periodic mapping of land use and land cover towards understanding the interactive processes between land, soil and water with implications to the productivity of the land. Another application relates to forest cover mapping that involve a bi-annual monitoring of our forest cover, assessment of trees outside forest and planning for sustainable use of forest. This is done on a two year cycle to plan for conservation measures of bio-resources. Snow and glacier mapping has been another major area of application covering around 4000 glaciers in parts of J&K, Ladakh, Himachal Pradesh, Uttarakhand and Karnali Basin of Nepal, enabling the understanding of snow accumulation process and ablation pattern in different parts of Himalayan region, to generate inputs for snow melt forecast models.

Some of the other interesting land use applications include wet-land mapping, land degradation mapping and waste land mapping and monitoring.

Interestingly, space systems have been also used to estimate direct and diffused component of incident solar energy and solar power now-casting. Further, methods have been developed to estimate wind energy and wave energy and their temporal variations. One important application of using the synoptic capability of earth observation is to identify nearly two thousand blocks with critical ground water scenario. Plans for water resources mission include water conservation & rainwater harvesting, renovation of traditional water bodies, reuse of bore wells recharge structure, watershed development and intensive afforestation. In the area of climate and environment, space capabilities have enabled the establishment of a multi-institutional system for climate and environment studies.

Currently, 64 bio geo physical products covering terrestrial, ocean and atmospheric domains are generated and includes ecosystem related information on net ecosystem production and net primary production. Space has also made possible biodiversity characterisation at community level. Before I conclude this brief account of the various important applications, it is also of interest to recognise that the fast turnaround capabilities of space systems enable detection and monitoring and where applicable planning the follow-up actions in situations such as floods, tropical cyclones, forest fire and landslides.

I am sure you will appreciate this narration about the potentiality of space system producing extremely valuable and timely data and information, which is an asset that many of you could find use in several of your projects and research activities. Utilization of aforementioned outcomes in the context of looking at other dimensions of a sustainable development study including sociological impacts, economics, legal framework and policies opens up new and innovative avenues for academic and research activities.

At this stage, I change the topic to cite an example of developing strategies and policies with regard to the conservation and preservation of a complex ecosystem, The Western Ghats. I do this with the specific intention of highlighting the multi-disciplinarity and inter-disciplinarity nature of such a problem, and further recognising the additional dimensions that should be taken cognizance of in developing a comprehensive strategy and policy - an excellent example for a Case Study at TERI SAS.

Western Ghats is a magnificent mountain range, next only to Himalayas and is a biological treasure trove with high degree of endemism and scenic beauty. This unique ecosystem has been threatened by continuously increasing habitat pressures and declared as one of the world's hottest hotspots of biodiversity. In order to protect and rejuvenate the ecology of and for sustainable development of Western Ghats the government set up an expert panel. The mandate included demarcating ecologically sensitive zones and suggest measures to conserve, protect and rejuvenate the ecology of the Western Ghats region. In order to arrive at a comprehensive and holistic understanding of the related scientific, technical, social, cultural, financial and other related issues, the methodology had to develop approaches to dealing with multidisciplinary and interdisciplinary character of the problem, using the best of the analytical tools including use of space-based remote sensing data together with geographic information system, global positioning system in addition to use of most modern surveying methods. Additionally, the exhaustive understanding on the ecological characteristics of the region, identification of heritage ecological sites including the flora and fauna, patterns of human settlements and their vocation, current levels and plans for development and their implication with respect to ecological integrity of the Western Ghats were also addressed in detail. The fundamental issue of reducing the deleterious influence of the anthropogenic activities, ongoing as well as future plans were carefully assessed including activities that could influence river flows and their impact on the local ecology. Finally, one had to also quantify the financial implications for undertaking the task to ameliorate the various problems of ecological degradation and identifying acceptable alternate occupations for the local residents. Integrating the outcome of the analysis of the various facets of this ecosystem was indeed daunting but not impossible logically, to lead to pragmatic conclusions. Needless to emphasise, many of these conclusions were also suitably moderated with public consultations and most importantly the assessment of the political will to adopt the recommendations. It is a challenge that is worth undertaking for its intellectual & professional demands, analytical rigour and evaluation of the available databases for their authenticity; besides, all that we mentioned earlier. I consider this effort and its variants to be an excellent piece of a challenging problem even at truncated levels for many of the institutions to attempt and to tackle as an academic exercise; certainly it is capable of providing very insightful experience in the context of dealing with a complex system.

Before I conclude my address, I would like to touch upon an important aspect of education, that of introducing Liberal education as a foundational component in higher education. This is being increasingly recognised as a crucial 21st Century educational component, to prepare the future youth in particular, to successfully face the dynamic and complex job environment. Liberal Education explores the remarkable relationships that exist among the sciences and humanities, mathematics and art, medicine and physics etc., and more generally, the surprising unity of all fields of human endeavour.

A comprehensive liberal education develops all capacities of human beings, intellectual, aesthetics, social, physical, emotional and moral, in an integrated manner. This is turn helps to develop critical thinking, improve communication skills and foster aesthetic sensibilities. The subjects covered will include Visual and Performing Arts, Humanities and Social Sciences, Science, Technology, Engineering and Mathematics, Languages, Sports, etc. Liberal Education will encompass cultivating scientific Temper & Methods, knowledge of History/ Diversity, Constitutional values and practices, Ethical reasoning and morals and Social responsibility. Liberal education will also focus on connect to society and include community service. In short, a liberal education will prepare one to be a thinking citizen for a lifetime. How exactly institutions like TERI SAS can bring concepts of liberal education into the present mainstream educational system is worth giving a thought at this juncture. My dear students, the path to great achievements and success will put enormous demands on you and call upon you to bring to bear the highest degree of professionalism inspired by being a part of a fast changing knowledge ecosystem. This in turn will imply continuous updating of your knowledge and thus making the process of learning a continuous one. The perpetual search for knowledge and ideas has been the hallmark of our intellectual heritage. The following quotation from Rigveda very effectively highlights the same-

आ नो भद्राः क्रतवो यनुतू वशि्वतः

"*Let noble thoughts come from everywhere unhindered and overfowing*".

I wish you all the very best in your professional career and personal life.

Thank you.

Celebration of Online Agriculture Education Day at Nagaland University

One-day Online Agriculture Education Day on the theme 'Agriculture Profession- Never Out of Fashion' was celebrated by the School of Agricultural Sciences and Rural Development (SASRD), Medziphema Campus, Nagaland University, Nagaland, recently. The Eminent Personalities from Agricultural background were invited to inspire and motivate the participants, which mostly consisted of students and young people, The future of the Nation. About 270 participants participated in the online event. The event was chaired by Prof. Akali Sema, Dean, SASRD, who also gave an opening remark, in which she briefed about the significance of the day and also made aware the importance and the various prospects of Agriculture Education in the country and across the globe. This was followed by a welcome address by Prof. Aleminla Ao, Pro Vice Chancellor, SASRD, Nagaland University.

During the Technical session, Dr. Tej Pratap, President Association of Indian Universities and Vice Chancellor, G.B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand emphasized on the mission of Agriculture Education way back in the year, 1952 when it first started to meet the Food Security of the Country. But over the years, the prospect it offers has been broadened. Today, the basic mission of Agriculture Education is not just to meet the Food Security but to make an individual capable of creating jobs and alleviate poverty, skill development and create a mindset of Entrepreneurship among the young people.

The next Speaker, Dr. Bidyut Chandan Deka, Vice Chancellor, Assam Agricultural University, Jorhat emphasized on why Agriculture has to stay in North East Region more than a hundred years, as the economy of the region is solely dependent on agriculture. It was also mentioned that globally, contribution of Agriculture in GDP is roughly 14%, while in NER its 16-20% and >20% in Nagaland. He also emphasized on the Dream of our Prime Minister, which is to make the economy of the country 5 trillion by the next 3-4 years, and this will be possible only when agriculture and allied sector grow by at least one trillion, especially the fishery and livestock sector by 8-10%. He further encouraged the young people/ youth to stress on the inclusion of agriculture as a core subject in the entire northeast region, as education is the best approach towards achieving any goal.

Dr. Manoj Kumar, Executive Director, ICCOA, Bengaluru discussed on 'Organic Agribusiness-A Microsoft of the Future'. He said that agriculture definitely has a great future because until the time human civilization requires food agriculture stays. He further, highlighted on some of the industries that have grown during this pandemic such as, IT Industry, Agriculture and Food Industry which paced up at a very high rate. While, Organic Agriculture increased even more than general agriculture. He also emphasized on Organic Agriculture as one of the best option to consume healthy food and also sustain the economy and environment health which is a major concern today.

The overall event was enthralling and impactful, taking everyone back to the era when agriculture education first started and its progress over the years till the present day. After the technical session, a short interaction was conducted where in all the queries and discussions were made. This was followed by declaration of result for an essay competition that was organized by the School of Agricultural Sciences and Rural Development for students of class 9-12, in commemoration of Agriculture Education Day. Prof. K K Jha, Head, Department of Agricultural Extension, SASRD, NU pronounced the winners for the competition. After which, time was given to all the winners for a short sharing. Finally, the Vote of Thanks was proposed by Mr. Chumbenthung Patton, President, SU, SASRD.

Teachers Training Programme

A three-day Teachers Training Programme-Interactive Series-1 on 'Don't Postpone Happiness, Smile to Make Lasting Impact' was organized by the IQAC and Alumni of Anjuman-i-Islam's Akbar

Peerbhoy College of Education, Vashi' on January 04-06, 2021. There were nearly 260 participant including academician, teachers and future teachers. The objectives of the programme were to develop soft skills in the teachers for development and progress and to motivate the teachers to create a sense of well-being. The thrust areas were *Shaheen ka Jahan Aur*…, fun with maths, organizational citizenship behavior (positive behavior to be developed in teachers for the overall progress and development of institutions), innovative learning strategies for modern pedagogy, approaches to teaching and learning in IB curriculum, cultural and learning sensitivity in the classroom.

The programme began with the introduction of the theme. President of Alumni Association, AIAPCE, Mr. M Waseem Shaikh explained the theme of the event**.** He said that we can see happiness is something that is unbounded and unconditioned. It is the basic essence of a human. It requires efforts to understand the psychology and philosophy behind what life is? Your life is in your hands. No matter where you are now, no matter what has happened in your life, you can begin to consciously choose your thoughts and change your life. There is no such thing as a hopeless situation. Every single circumstances of your life can change. Teachers play vital roles in the lives of the students in their classrooms. Teachers are best known for the role of educating the students that are placed in their care. Beyond that, teachers serve many other roles in the classroom. Teachers set the tone of their classrooms, build a warm environment, mentor and nurture students, become role models.

Mr. Azim Durrani, Vice President, Alumni Association, AIAPCE delivered an interactive session on '*Shaheen Ka Jahan* Aur'. He mainly focused on importance of effective teaching. He simply compared the teachers' qualities with qualities of eagle (*Shaheen*). It could be done by setting proper goal and vision, being creativity or innovative by implanting new ideas. He also discussed on 'Understanding Manipulative Psychological Strategies'. It was very interactive and motivational session.

Ms. Preeti Nair, Executive Member, Alumni Association, AIAPCE conducted an interactive session on 'Learning Maths with Fun'**.** To teach a Mathematics, is actually a challenging task. In his session, it was all about, how we teach maths with fun. The lecture is divided into three questions. Why does maths hold an important and unique place among other subjects in school? How students perceive maths and why? How to improve the classroom situation to make math more interesting, interactive and fun? Mathematics. She wonderfully relates maths with Music, Art, Dance, Sports, Cooking, Languages, Science, History and Geography, to show the importance of maths. She showed some negative attitudes of children for maths with some pictures. So as a teacher, we can convert this negative attitude to positive attitude, with fun teaching. She showed some reasons why students hate maths, so we can overcome this to teach maths with fun. We can give students to real world examples, so they can relate easily. She gave so many east tips to make maths interesting for students while teaching maths in classroom. We felt the teachers who attended this wonderful lecture, will be able to extract best results out of students by applying these tips in their teaching and classrooms. She gave the lecture tremendously. She told us about importance of Mathematics. The session was educative with real and practical examples. She made the participants to think world without Maths.

Ms Sindhu Thomas, Alumni, AIAPCE delivered a talk on 'Organizational Citizenship Behaviour'. She explained the quality of being honest and having strong moral principles. A person with complete integrity, she illustrates with example. She focused on seven dimensions of Organisational citizenship behaviour also related her topic with research study. The session was quiet thoughtful and compelling. It has raised many questions in the mind that how it is possible? But her satisfactory reply was, '*Karamki Chita Karfaalkinahi*'

Ms Uzma J Shaikh, Alumni, AIAPCE presented an interactive session which aimed at describing 'Innovative Teaching Techniques for Modern Pedagogy'**.** As we know by experience that in the present era, becoming an effective teacher is a challenge because each student is unique. She described many innovative strategies like reciprocal teaching strategy, collaboration strategy and other innovative strategies. She made us believe that, by using a range of teaching strategies, we can address different learning styles and academic abilities of students, as well as make our class a dynamic and motivating environment for students. In this way, she explained that looking at the learning style of

the majority population in our classroom we should put required efforts in using different innovative teaching techniques to cater every learning style. Her session was very organized, informative and useful.

Ms Kanchan Khanna, Alumni, AIAPCE explained about the topic 'Approaches to Teaching and Learning in IB Board'. She began the session by giving a brief idea about the holistic approach towards the curriculum and that IB curriculum aims at developing global citizens. Thus the teaching learning strategies and methodology issued accordingly in IB curriculum. It focuses on developing 10 major qualities of a learner. i.e. inquiry based, knowledgeable, thinkers, communication, open minded, reflective, balanced, risk–takers, caring and principled. She focused on the following: approach to teaching-based on inquiry, conceptual learning, develop in local and global contexts, effective teamwork and collaboration, differentiated to meet the needs of all learners, informed by formative and summative assessment, approach to learning-social skills, research skills, self-management skills, communication skills, thinking skills. She focused on the approach towards teaching and learning in IB curriculum is aimed at developing different perspectives of a student to become a global citizen.

Ms Rehana Salamat, Alumni, AIAPCE presented an interactive session on 'Cultural and Learning Sensitivity in the Classroom'. She explained culture as a collection of values, beliefs, behaviour and material object that form a peoples' life. She also lists major challenges faced by schools today which involves poverty, class size, technology, bullying, etc. She put emphasis on how we can build sensitive environment in the classroom. We need enrich communication skills so that student feels comfortable in classroom. She explained that if we want to build culturally and learning sensitive classroom we must have caring classroom. She sanitized that to create sensitive classroom we must know and understand socio/economic setting the children belong too. Teacher language also play vital role in this process. She explained some very useful practices to establish a community in classroom which includes encourage leadership hold meetings, rewards for group accomplish. The session was very sensitive, emotionally with lots of real examples.

After each session, Question and Answer session was conducted followed by panel discussion. Dr. Asma Shaikh, Principal, AIAPCE, Mr. M Qamar Saleem, Dr. Supriya Deka and Ms Hoorjahan Hasan, Associate Professors, AIAPCE along with Members of Alumni Association, AIAPCE, were the part of Panel Discussion.

Concluding remark and brief report of the event was presented by Dr. Asma Shaikh, Principal, AIAPCE. Vote of Thanks was proposed by Mr. M Qamar Saleem, Incharge Faculty, AIAPCE. The feedback form after every session collected via google form link and also the certificates were awarded to the participants.

Webinar on International Business beyond COVID-19

A six-day Webinar on 'International Business beyond COVID-19' was organized by the Graduate School of Management Studies (GSMS), Gujarat Technological University (GTU), Ahmedabad, Gujarat commemorated with 60th Foundation Day of Gujarat**,** recently. The students pursuing management degree and other courses, faculty members from various disciplines and executives practising international business participated in the event. The webinar was inaugurated by Hon'ble Education Minister, Shri Bhupendrasinh Chudasmaji.

In his speech, he cited that how the pandemic of Corona can be a blessing in disguise by attracting all those companies that were moving away from China to other less-developed countries. This exodus would trigger a new wave of industrialisation. Consequently, the expansion of the manufacturing hub linked with global supply chains would increase not only productivity but also create large-scale employment in Gujarat and India. After COVID-19 pandemic, India will have the opportunity to build an economy that is more resilient, diversified and attractive to the global manufacturers and services as the majority of the businesses worldwide have faced disruptions and economic fallout.

Ms. Anju Sharma (IAS), Principal Secretary, Education Department, Government of Gujarat as distinguished guest addressed the need for contactless technology, use of artificial intelligence and robots in our day to day life post COVID-19. She applauded

the efforts of GTU to come out with a subject aptly needed in the present circumstances.

Professor (Dr.) Navin Sheth, Vice Chancellor presented the glimpses of importance of International Business and he cited the various initiatives taken by GTU during the lockdown period like online teaching by 400 plus colleges affiliated to GTU, yoga sessions to keep oneself physically and mentally fit at home during lockdown, stress reduction through music and boost up of the immunity through usage of herbs and other plants of medicinal value. Registrar, Dr. K N Kher proposed Vote of Thanks for the inaugural session.

After the Inauguration Ceremony, Dr. Jagat Shah, renowned mentor delivered the talk on 'How to do Export Market Research with Digital Tools from Home'. He stressed on the preparedness of the individual and organization during the lockdown period for the 1 year, once the country and world returns to a somewhat normal routine. He said that those who have prepared themselves with innovation and knowledge will do more business than they did in last full year. He stressed on the need for seven forms of capital comprising of 4 higher forms namely cultural, human, knowledge and institutional and 3 lower forms i.e. financial, man-made, natural endowments. With examples of e-commerce ventures like (i) *www.bluenile.com*, (ii) *www.personalizedoormats.com* and (iii) *www.cyprusindustries.com*, he identified different ways of doing export business. In the end, he gave examples identifying strategies for business post COVID-19.

Prof. P Saravanan, Professor, Finance and Accounting, Indian Institute of Management, Tiruchirappalli delivered a lecture on 'COVID-19 and Its Impact on Global Capital Markets'. He said that because of Corona more than 170 countries are affected, and USA has the most confirmed cases. The outbreak has had clear significant economic impacts globally. The relationships among international stock markets have become increasingly important as large number of institutional investors invest across globe.

Global Cyber Peace Challenge 2.0

A One-day 'Global Cyber Peace Challenge 2.0' is being organised by the School of Law, Rights and Constitutional Governance (SLRCG) partnered with the Cyber Peace Foundation (CPF) organization on February 09, 2021. The event is open to cyber peace security experts, technologists, community leaders, civil society bodies, students, developers, UX/UI designers, business analysts, education professionals, advisors, mentors, entrepreneurs, thought leaders, and investors. The challenge is committed to ensuring gender diversity in the cyber peace security workforce of the future.

Global Cyber Peace Challenge is a journey to recognize and award talent and build solutions to some pressing problems that our society faces. The objective of the challenge is to both present technical challenges to identify talent and to tap their innovative approach to solving critical real-world problems. The challenge will be divided into three parts:

- Cyber Peace Policy and Strategy Challenge,
- Peace-a-Thon: The innovation challenge, and
- Capture The Flag (CTF).

For further details, contact Coordinator, Dr. K M Parivelan, Associate Professor, School of Law, Rights and Constitutional Governance, Tata Institute of Social Sciences (TISS), V.N. Purav Marg, Deonar, Mumbai- 400088 (Maharashtra), E-mail*: parivelan@tiss.edu.* And Mr. Kumar Vikram, Project Manager, Cyber Peace Foundation, E-mail: *kumar.vikram@cyberpeace.net*. For updates, log on to: *https://www.cyberpeace.org/*

Management Development Programme

The Management Development Programme on 'Online Certification in Digital Marketing' (Weekend Online Programme) is being organized by Vinod Gupta School of Management Indian Institute of Technology Kharagpur, Kharagpur through Video Conferencing during April 17–18, 2021 and April 24–25, 2021. The Mid-level Managers working in any domain of business, digital marketing enthusiasts, MSME and start-up entrepreneurs may participate in the event.

Digital marketing is a low cost but targeted canopy for marketing. It is all about marketing products and services through digital technologies, overall the internet, digital marketing involves all marketing activities that requires an electronic device or the internet. With the constant growth of

the web, and more people getting connected every day, digital marketing has become a necessity for many organizations. For the promotion of business, especially the new startups, different digital channels such as social media, email, search engines and websites are utilized to interact with current and prospective consumers. This also includes small businesses that wants to trade online and make a name for themselves on the web. Moreover, the web is now crowded with information. Nonetheless, if you have a website, can these people reach you that are searching the web for answers? Digital marketing enables you to ensure that. Even if your business is booming by now, you may miscue an untold number of leads, partners, clients, and dollars if you're not properly utilising some straightforward digital marketing techniques. Therefore, learning to survive in the digital world using relevant technologies and tools is a must in today's world.

Given the COVID-19 outbreak, most industries are running in crisis and finding it difficult to invest in traditional marketing. As a result most of the Indian and multinational companies are focusing more on digital marketing which is not only low cost and high-ROI generative, but also needs no physical contact, even for personal selling. The contents of the Course are:

- Digital Marketing in the Disruptive Era.
- Digital Marketing - Background, Concepts and Channels.
- Use of Google Analytics and Google Tag Manager.
- Forms of Digital Marketing-Web Marketing, Sponsored Marketing, Affiliate Marketing, App Marketing, Performance Marketing, Ecommerce Marketing.
- Search Engine Optimisation.
- Content Creation, Content Curation and Video Hosting.
- Attribution Modelling.
- Customer Relationship Management using Digital Marketing.
- Measuring Effectiveness of Digital Marketing.
- Assessing the Cross-impacts of Offline and Online Marketing and Aligning the Offline and Online Marketing.
- Case Studies.

For further details, contact, Course Coordinator, Dr. Srabanti Mukherjee Assistant Professor (Marketing), Vinod Gupta School of Management, Indian Institute of Technology Kharagpur, Kharagpur-712302, (West Bengal), Phone: 03222-283868, Mobile: +91-9432298882, E-mail: *srabanti@vgsom.iitkgp.ac.in.* For updates, log on to: http://iitkgp.ac.in/ ❑

Themes for Forthcoming Special Issues of the University News

Special Numbers of the University News being brought out on the occasion of AIU Zonal Vice Chancellors' Meets during February, 2021— March, 2021 are on the following themes:

1. *Implementation Strategy for NEP 2020: Promoting Quality, Research and Internationalization in Higher Education* to be published on February 08, 2021 on the occasion of Central Zone Vice Chancellors' Meet-2021 to be held at Sri Sri University, Cuttack, Odisha. Last date for receipt of Article is February 05, 2021.
2. *Implementation Strategy for NEP 2020: Holistic and Multidisciplinary Education with Technology Integration* to be published on February 15, 2021 on the occasion of North Zone Vice Chancellors' Meet-2021 to be held at Guru Govind Singh Indraprastha University, New Delhi. Last date for receipt of Article is February 12, 2021.
3. *Implementation Strategy for NEP 2020: Governance Reforms and Financing of Higher Education* to be published on February 22, 2021 on the occasion of South Zone Vice Chancellors' Meet-2021 to be held at GITAM (Deemed to be University), Visakhapatnam, A.P. Last date for receipt of Article is February 15, 2021.

Manuscripts may be sent to Dr. Sistla Rama Devi Pani, Editor, University News, Association of Indian Universities, AIU House, 16 Comrade Indrajit Gupta Marg (Kotla Marg), New Delhi-110002. E-mail: *unaiu89@gmail.com/universitynews@aiu.ac.in/rama.pani2013@gamil.com*

THESES OF THE MONTH

HUMANITIES
A List of doctoral theses accepted by Indian Universities
(Notifications received in AIU during the month of November-December, 2020)

Geography

1. Karar, Tapasi. **Land use efficiency and population pressure in Murshidabad District (West Bengal)**. (Dr. Manoj Kumar Jha), Department of Geography, T M Bhagalpur University, Bhagalpur.

2. Patil, Vitthal Maruti. **A demographical study of Koli Mahadev Tribal Community in Chandgad Tahsil of Kolhapur District (Maharashtra)**. (Dr. Hange A K), Department of Geography, Swami Ramanand Teerth Marathwada University, Nanded.

3. Vineetha, L. **Analysis of interlinked locational and environmental issues in the rice mill industries in Kerala: A study of Ernakulam District**. (Dr. Lancelet T S), Department of Geography, Sree Sankaracharya University of Sanskrit, Kalady, District Ernakulam.

History

1. Anas, E. **Spiritual order to political formatons: Hadhrami Sayyids in Malabar, 1852-1948**. (Dr. Sheeba K M), Department of History, Sree Sankaracharya University of Sanskrit, Kalady, District Ernakulam.

2. Chanchal, Amit Kumar. **Purv Madhyakaleen Bharat meinsamajik parivartan**. (Dr. Archana Kumari Sah), Department of History, T M Bhagalpur University, Bhagalpur.

3. Khan, Ishan. **Social history of leather industry and technology in United provinces: A case study of Agra (1860-1950)**. (Dr. V M Ravi Kumar), Department of History, Babasaheb Bhim Rao Ambedkar University, Lucknow.

4. Nanda, Pon Nyar. **Buddhist Councils: A historical study**. (Prof. S Victor Babu), Department of History, Babasaheb Bhim Rao Ambedkar University, Lucknow.

5. Pachuau, Lalhlimpuii. **Teachers, curricula and the society: A social history of education in Colonial Mizoram**. (Prof. Lalngurliana Sailo and Prof. J L Dawar), Department of History and Ethnography, Mizoram University, Aizawl.

6. Thaw, Ba Na. **A critical study of monastic education in Myanmar AD 1044 (Bagan period) to AD 1885 (Kone Baung period)**. (Prof. Shura Darapuri), Department of History, Babasaheb Bhim Rao Ambedkar University, Lucknow.

7. Tiwari, Trapti. **Malwa kee maranmurtikala ka puratatvik etihaasik evam sanskratik adhyayan (Prarambh se Kushan kaal tak**. (Dr.Vishwajeet Singh Parmar), Department of Ancient Indian History Culture & Archaeology, Vikram University, Ujjain.

8. Wadje, Jairaj Pandurang. **Mukhed va parisrateel math sansthan va mandir sthaptyacha abhyas**. (Dr. Anil Kathare), Department of History, Swami Ramanand Teerth Marathwada University, Nanded.

Languages & Literature

English

1. Joshi, Kamleshkumar Amrutlal. **Developing communicative competence: Online teaching tools for the students of technology**. (Dr. Chetan Trivedi), Department of English, Gujarat Technological University, Ahmedabad.

2. Bhatt, Dipakkumar Ajaykumar. **Requirement of need-based syllabus of English for undergraduate engineering students**. (Dr. Vikas M Raval), Department of English, Gujarat Technological University, Ahmedabad.

3. Bilaye, Nomita Suresh. **A study of diasporic sensibility and acculturation in the select novels of Chitra Banerjee Divakaruni**. (Dr. Mantha Padmabandhavi P), Department of English, Swami Ramanand Teerth Marathwada University, Nanded.

4. Divya, P. **Conceptualizing gender and nation in select immigrant fiction**. (Dr. Nisha Venugopal), Department of English, Sree Sankaracharya University of Sanskrit, Kalady, District Ernakulam.

5. Jain, Sulakshana. **Concept of text context and intertextuality in the contemporarry crititcal theories**. (Dr. Prashant Mishra), Department of English, Vikram University, Ujjain.

6. Juneja, Almasara Mustufabhai. **A study of elements of law of attraction as embodied in 'The Prophet by Khalil Gibran and the Alchemist' by Paulo Coelho**. (Dr. Krishna Daiya), Department of English, Gujarat Technological University, Ahmedabad.

7. Priyanka, M G. **Purport and expression in English poem's of Kuvempu: A study**. (Dr. K C Shivareddy and Dr. G Umamaheshwara), Department of English, Kannada University, Hampi, District Bellary.

8. Rana, Bhaveshkumar Bipinchandra. **Factors hindering the development of speaking skill of degree**

engineering students of South Gujarat: An empirical study. (Dr. Seema R. Gida), Department of English, Gujarat Technological University, Ahmedabad.

9. Sethiya, Neha. **The novels of M G Vassanji: A new historicist study**. (Dr. Prashant Mishra), Department of English, Vikram University, Ujjain.

10. Shain, K K. **Treatment of nationalism and transnationalism in the work of Amitav Ghosh**. (Dr. T Vasudevan), Faculty of Indian Languages, Sree Sankaracharya University of Sanskrit, Kalady, District Ernakulam.

11. Vivera, Tania Mary. **Reading minds: A cognitive narrative analysis of select multimodal fiction**. (Dr. N Prasanthakumar), Department of English, Sree Sankaracharya University of Sanskrit, Kalady, District Ernakulam.

12. Yasmin, Suraiya. **The Sufi poetry of Rumi, Hafiz and Bulleh Shah: A thematic study**. (Prof. Sujata Gurudev), Department of English, North Eastern Hill University, Shillong.

13. Zuali, Josephine L B. **Mizo postcolonial world view and its impact on the literary discourse of Mizo novels**. (Prof. Margaret Ch Zama), Department of English, Mizoram University, Aizawl.

Garo

1. Marak, Crystal Cornelious D. **A study of themes and narrative techniques in prabodh M Sangma's novels**. (Dr. Jacqueline R Marak), Department of Garo, North Eastern Hill University, Shillong.

Hindi

1. Ballanna, Gangadhar Ushamwar. **Devkinandan Shukla ke katha sahitye mein yatharth bodh**. (Dr. S L Muneshwar), Department of Hindi, Swami Ramanand Teerth Marathwada University, Nanded.

2. Dewale, Pandhrinath. **Usha Priyamvada ke katha sahitye mein samajik yatharth**. (Dr. Uma Bajpayee and Dr. Jagdeeshchandra Sharma), Department of Hindi, Vikram University, Ujjain.

3. Gayathri, K. **Navem dasak kee kahaniyom mein manaveeya sambandh (Mahila lekhan ka sandarbh**. (Dr. K P Berley), Department of Hindi, Sree Sankaracharya University of Sanskrit, Kalady, District Ernakulam.

4. Gupta, Umesh Kumar. **Adikaleen Raso kavya parampara aur Parmal Raso**. (Dr Premlata Chutel), Department of Hindi, Vikram University, Ujjain.

5. Gupta, Vandana. **Hindi samkaleen kavitriyoan ka kavye: Chintan ke vivdh aayam (Katyayani, Gagan Gil, Anamika evam Nirmala Putul ke vishesh sandarbh mein**. (Dr. Usha MIshra), Department of Hindi, S.N.D.T. Women's University, Mumbai.

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Special Number of University News
on
Implementing National Education Policy–2020 to Transform Higher Education in India'

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