Vidya Bharati

Uccha Shiksha Sansthan

MyNEP
मेरी शिक्षा, मेरा भारत

शिक्षा

पथ - प्रदीपिका

NEP 2020 and The Way Forward

शिक्षा

पथ - प्रदीपिका

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Most importantly, we thank the speakers and moderators who participated in our interviews and seminars – sharing their expertise on education and its future in India in context of NEP 2020 – as well as the session coordinators for ensuring the success of every event conducted. This project has also received constant counsel and encouragement from the Advisory Team members of MyNEP and the NEP taskforce committee members of various states. We are truly grateful for their support. Lastly, a word of gratitude to the members of our staff for reporting, editing, and preparing all material for the successful publication of this document.

We hope the efforts and contributions of the people mentioned above create valuable food for thought and generate greater interest and motivation within our society to contribute productively to improving the state of education across the country.

Editorial Team,

MyNEP,

Vidya Bharati Uchcha Shiksha Sansthan

Foreword

The National Education Policy 2020 is India's most aspirational and ambitious policy aimed at transforming India's education system. The policy stands out as most unique in terms of its approach in making the policy and in its implementation by involving stakeholders. For the next two decades, India's education system is poised for a massive structural, regulatory and curriculum changes to usher in Bharatiyata centric system. Apart from making bold recommendations to enhance the quality of education to global standards, the policy calls for developing India-centric education with clear roadmap to make India a global knowledge hub. The transition of India's education system, as envisaged in the Policy, brings out the need for facilitation, collaboration, partnership between and among institutions and people.

In this regard, the initiative of Vidya Bharti Uchha Shiksha Sansthan in facilitating stakeholders to understand as well to implement the policy is much laudable. Their endeavor to create a platform to dialogue and deliberate on the challenges of implementation has empowered the stakeholders in developing their own strategies for implementation. The series of webinars organized by Vidya Bharti has not only engaged the relevant stakeholders in discussions but has carried forward the very spirit of the policy. Their initiative of bringing together the domain experts, the policy makers, the implementers, and stakeholders has enhanced the confidence of people and has resulted in creating an ecosystem conducive for implementation. Conducting series of seminars is a pioneering effort as the specific issues in the policy were brought into public domain as against generic features.

The thematic discussions held through webinars over months all over the country have very effectively addressed the collective apprehensions of stakeholders with respect to implementation challenges. This endeavor of Vidya Bharti to put all the discussions together as a simple publication is to support all the implementing agencies and the stakeholders who are at the leadership position to evolve implementation roadmap with more clarity and confidence.

About
VBUSS

Since 1952, Vidya Bharati has been playing a very important role in the education sector of the country in promoting Bharat-centric education by enlightening the students, inculcating in them cultural & moral values, and social consciousness for building a competent generation for the nation and society. It is committed to reconstructing and developing a strong, harmonious, cultural and prosperous nation on the basis of developing the national educational system.

The programmes and activities of Vidya Bharati are society-based and society-nurtured with a resolve to build the complete personality of students by imparting the requisite knowledge, skills and impetus in the students on the basis of Indian education philosophy. Vidya Bharati has been running Saraswati Shishu Vatika, Saraswati Shishu Mandir and Saraswati Vidya Mandir (Secondary and Senior Secondary Schools) all over the country. There are 25 Teacher's Training Colleges for producing skilled and efficient teachers. Apart from this, Vidya Bharati is also working in the field of higher education with 40 degree colleges associated with it. Our work has gained wide acceptance in the society.

Vidya Bharati Uccha Shiksha Sansthan (VBUSS) is a voluntary organisation working in the field of education with focus on policy implementation and structural reforms in India's Higher Education landscape. Vidya Bharati Uchcha Shiksha Sansthan has been established to realise the aspirations of quality education in higher education along with inculcating in students the sense of the Bhartiya life values. There is a dire need to work towards bringing a positive change by establishing contact, dialogue and co-ordination with institutions in the field of higher education. Thus, Vidya Bharati strives to create centres of excellence in higher education which would be marked with combination of ancient & modern, traditional & non-conventional, and oriental & occidental knowledge.

About
MyNEP

MyNEP is an initiative to spread awareness about and facilitate implementation of NEP 2020 at various levels. MyNEP started its journey by organising an online competition in the month of September and October 2020 with an objective to create awareness on the significance of NEP 2020 amongst the students and citizens. The competition had drawn huge recognition and participation from different corners of India. Many leading policy makers, academicians, celebrated personalities had associated with the campaign. Shri. Narendra Modi, Hon'ble Prime Minister of India had tweeted in recognition of the campaign and also motivated students to take part in the competition. Dr. K. Kasturirangan, the Chairman of the drafting committee of the National Education Policy had encouraged the participants through a video message and he had also signed the certificates for the winners of the competition. Around 30 facebook live sessions on the importance of NEP 2020 and its different dimensions were hosted on daily basis. Eminent personalities including relevant ministers and reductionists engaged directly with students through such sessions. The Competition received a thumping response with 1,25,60,192 registrations received on the MyNEP portal. 13,27,883 participated in various competitions. Total 500 prizes were awarded with 194 special mentions. A total of 44,57,124 students and civil society organisations had also registered themselves as the 'Ambassador' of MyNEP.

Continuing with our vision and mission, MyNEP developed our existing portal www.mynep.in as a 'One stop information network' about the implementation of NEP 2020. We had divided the NEP into around 35 specific topics catering to both higher and school education concerning different reforms. Our research team conducted comprehensive research on each of the topics and came up with research papers containing possible suggestions for the successful implementation as well. We also organised webinars on each of the topics facilitating deliberation, discussion and brainstorming sessions so that sharing of novel ideas could take place. MyNEP also conduced around 20 interviews of various heads of institutions including union education secretary, UGC Chairman etc who are directly overseeing the implementation of NEP 2020 asking pertinent questions about the progress and way forward.

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Editorial

The unveiling of National Education Policy in July 2020 was a culmination of years of deliberations and of consultations across the country. The NEP 2020 has been hailed as the most ambitious and pragmatic education policy of India since its independence. The Policy, a true reflection of the collective wisdom of India's visionaries has well captured the aspirations of its people. The old and the young were yearning for such a forward looking policy for decades. The Policy promises an education system that is India centric and ensures to transform India into an equitable and vibrant knowledge society by providing high-quality education to all and thereby making India a global knowledge superpower.

The regulatory reforms and introduction of holistic and multidisciplinary education at all levels of learning are considered to bring in a paradigm shift in the Indian education system. What is more promising is the doing away with the current watertight compartmentalization of disciplines and of educational degrees wherein students have had very limited choice. The NEP gives freedom to students to choose the subjects of their liking as well as the pace at which they prefer to learn. This approach to learning would not only bring out the best in a student but would also make learning a joyful process.

To ensure high quality education to all, the Policy recommends building a learning ecosystem that is vibrant, conducive and sustainable. Setting up new institutions, creating knowledge clusters, reforming regulatory systems, empowering teachers and providing

optimum learning supports to students are some of the Policy recommendations that are going to unfold in the coming days. How these are going to be implemented will now largely depend on the mindset of the stakeholders and their readiness to take the Policy forward. Exercise of the autonomy granted to institutions and to faculty under the Policy is being perceived as a challenge instead of considering it as a means to accomplish the Policy vision.

The success of a Policy largely lays on its implementation so is the NEP. The Policy has given a blueprint to transform the education system and now it is solely the responsibility of the stakeholders to see that the vision is translated into action. To help the stakeholders in their transition, Vidya Bharti Uccha Shiksha Sansthan is bring out this publication (please bring the title of the publication here). Vidya Bharti's endeavor is to help and facilitate stakeholders in preparing a roadmap for Policy implementation through sharing of knowledge and practices between and among the stakeholders, experts and education practitioners. The publication, first in the series, is a collection of write ups by eminent educationist and practitioners on issues critical for the Policy implementation. The thoughts presented here are to be read as 'ideas' and 'suggestions' and not to be considered as pronounced policy frameworks and guidelines.

धर्मेन्द्र प्रधान
ଧର୍ମେନ୍ଦ୍ର ପ୍ରଧାନ
Dharmendra Pradhan

सत्यमेव जयते

150 YEARS OF CELEBRATING THE MAHATMA

मंत्री
पेट्रोलियम एवं प्राकृतिक गैस ;
इस्पात मंत्रालय
भारत सरकार, नई दिल्ली
Minister
Petroleum & Natural Gas ;
Steel
Government of India
New Delhi

MESSAGE

Vidya Bharati Uchcha Shiksha Sansthan has been doing exemplary work towards facilitation of new education policy. 'My NEP' website has become a people's website with people's participation. I am confident that this kind of research work will inspire various stakeholders committed towards timely implementation of 'My NEP'.

I congratulate team 'My NEP' for coming up with this Journal exclusively focused on National Education Policy implementation. I wish that the journal proves to be a torch bearer for the institutions engaged in making our country a global hub of education.

(Dharmendra Pradhan)

New Delhi
January, 2021

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संजय धोत्रे
SANJAY DHOTRE

सत्यमेव जयते

शिक्षा, संचार एवं इलेक्ट्रॉनिकी और
सूचना प्रौद्योगिकी मंत्रालयों के राज्य मंत्री
भारत सरकार
MINISTER OF STATE IN THE
MINISTRIES OF EDUCATION,
COMMUNICATIONS AND ELECTRONICS &
INFORMATION TECHNOLOGY
GOVERNMENT OF INDIA

संदेश

20 JAN 2021

भारतीय मूल्यों से विकसित शिक्षा प्रणाली बनाने के लिए राष्ट्रीय शिक्षा नीति 2020 की निर्मिती हुई है। यह शिक्षा नीति उच्चतर गुणवत्ता शिक्षा के द्वारा भारत को वैश्विक ज्ञान महाशक्ति बनाकर, एक जीवंत और न्यायसंगत ज्ञान समाज में बदलने के लिए प्रत्यक्ष रूप से योगदान करेगी।

विद्या भारती उच्च शिक्षा संस्थान नई शिक्षा नीति क्षेत्र में अनुकरणीय कार्य कर रही है। 'My NEP' वेबसाइट आम जन मानस के मध्य बहुत लोकप्रिय हो चुकी है। इस प्रकार सभी शिक्षा जगत से जुड़े लोगों के मध्य शोध एवं नीतिगत परिचर्चाओं द्वारा सफल क्रियान्वयन हेतु एक सकारात्मक वातावरण तैयार हो रहा है। देश के जाने माने शिक्षाविद्, प्रशासक एवं शिक्षक 'My NEP' वेबिनार से जुड़े एवं आपसी चिंतन से नए विचारों का सृजन हुआ।

मैं विद्या भारती की टीम को इस शोध पत्रिका हेतु हार्दिक बधाई देता हूँ एवं यह आशा करता हूँ कि यह पत्रिका भारत को पुनः शिक्षा जगत में विश्व गुरु बनाने के प्रयास में एक आवश्यक योगदान सिद्ध होगी।

(संजय धोत्रे)

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The Indian education faced a major setback when British implemented a new education system during 19th century which proved to be perfectly alright to serve their purpose. Since then the purpose of Indian education was also changed. To review that system and suggest changes, several committees and commissions were constituted particularly post independence, but the wide reference has been made of Kothari commission (1964 – 66) following which a National Education policy was declared in 1968. In 1986 one more policy was in place. The present National Education Policy-2020 came after countrywide extensive deliberations has drawn attention of all stakeholders- educationists, administrators, teachers, students, social workers and others. It is being widely discussed both after its adoption and declaration. People are highly hopeful from the present policy and it is said if it is implemented, for which the national government and stakeholders are doing their best, the country's education would become purposeful and would be successful in achieving it's aims and objectives. Several efforts are being made in our country in this direction by various sections of the society.

Both quantity expansion and quality enhancement in our education were felt required since long. One can notice that India's higher education expanded significantly since independence. For example there were only 9 universities in all in 1947. These became 64 in 1964 (the year of establishment of Kothari commission to suggest changes in education system). Presently there are more than 900 universities and more than 40000

Dr Kailash Chandra
National President
Vidya Bharti Ucha Shiksh Sansthan

colleges imparting higher education. However this expansion is not sufficient as per requirement of the country. The quantitative expansion was visible particularly during the last two-three decades which might be attributed to the liberalization of policies due to which large number of private institutions mushroomed. Such expansion in higher education institutions has further increased the quality challenge. When Kothari commission was constituted, the education system was facing various quality issues which worsen during the last few decades. The average standards were falling and some of the conclusions of sixty's were seen multiplied during the last six decades as the rapid expansion resulted in tremendously lowering the quality of education. Slackness and strain during an academic year, slackness during the session and strain at the time of examinations etc are some such examples. In the absence of a "research impregnated" atmosphere even the intellectually ambitious younger members of the (teaching) staff were soon caught up in the general atmosphere of indifference and cynicisms. Decades have passed and in the Indian education system particularly the higher education sector faced such problems with manifold increase. The different committees and commission's reports directly or indirectly accepted these burning issues but no whole hearted efforts were undertaken to solve these issues by the implimentors.

Vidya Bharati Akhil Bharatiya Shiksha Sansthan is working quality education since last 6-7 decades and has contributed significantly to school education by empowering lives of millions of children who are deprived of quality school education. Vidya Bharati's broadly and popularly accepted viewpoint- "Indianisation, nationalization and spiritualization" of education is widely accepted.

Accepting that this theme should be the basis of all sectors of education, the Vidya Bharati Ucha Shiksha Sansthan(VBUSS) was established two years back which is working for the enhancement of quality higher education through quality higher educational institutions. The working approach of VBUSS is like an organic catalyst which provides a suitable platform for all stakeholders to come together and interact and help in improvement to develop quality institutions of higher learning. The national education policy -2020 has come up with all the relevant issues of present education system starting from aims and objective(s)/ purpose of education to improvement in existing ones or develop new institutions which are of world class standards and indicated towards the necessary steps to be adopted in the system for implementation of required changes. As per the NEP's recommendations the present education system needs a paradigm shift particularly in higher education sector. Only

three types of institutions viz., Research intense Universities, Teaching intense Universities and Quality Undergraduate focused Autonomous institutions; All three types with multidisciplinary education having multiple exit and entry options, inclusion of practical and skill education at all levels and in all faculties etc. are some important changes being focused. Quality Education at quality institutions by quality teachers is the main focus of NEP-2.

For all these and other relevant improvements all stakeholders have to co-ordinate and come together for the required changes.

As part of its functions VBUSS has come up with an idea of organising discussions for the purpose. So national and regional level webinars involving leaders of institutions like Vice-chancellors, Directors Principles, members of management (committees) etc.; teachers; students; social workers and others, who are interested in rejuvenating higher education have were organised during the past two-three months. The compilation of all such deliberations compiled and are being published here, which might be further used for the purpose of quality improvement of higher education institutions as a reference.

e- संगोष्ठी

Webinar Reports

Exams, Assessment and Holistic Development

- **Webinar Date & Time :**
  November 28, 2020 | 11 AM onwards
- **Speakers :**
  Shri Vineet Joshi, Director General, National Testing Agency

  Dr. Sanyam Bhardwaj, Controller of Examination, CBSE
- **Moderated by : Shri Kuldeep Chauhan**

Shri Vineet Joshi
Director General
National Testing Agency

Dr. Sanyam Bhardwaj
Controller of Examination, CBSE

Shri Vineet Joshi ji stated that as of now assessment is an average testing process not examining skills of any students but only the subjective knowledge. NEP 2020 says about the Common Admission Test that the students must be tested with their aptitude, skills and subject knowledge. NEP 2020 suggests that exams should not be a burden and they should be competency based. We need to prepare students for the changing pattern between school and higher education.

NTA was established in 2017 with the purpose of better execution of examinations across the country. Questions papers should be analyzed in a better way with proper psychometric analysis, and it must match with the physiology of students. Secondly, the level of paper should match with the level of students. NTA also provides inputs to concerned BOARDS regarding exam results data analysis so that proper backward integration (changes to be made in teaching and learning process) can be planned in academics with better understanding about the students.

Dr. Bhardwaj said that there were board exams in 8th standard before 1986. Now, NEP 2020 stipulates that results of standards 3, 5 and 8 would be analysed to know whether the students are learning what has been taught or not. Technology would be harnessed for better examination process. Too many changes should not be done at once. Whatever changes should be done they should be attempted gradually and periodic evaluation should be done for if the desired results are being achieved or not. exams should be held in such a manner that they should not create panic among parents and students. More number of attempt chances should be allowed. India should also focus on third world countries which are not very developed or where school education system is not that good. We can help them in giving good education and academic infrastructure.

Importance of Vocational Education in School Education

- **Webinar Date & Time :**
  November 30, 2020 | 11 AM onwards
- **Speakers :**
  Prof. C B Sharma, Ex-Chairman, NIOS, and
  Prof. B V Ramana Reddy, GGSIP University
- **Moderated by : Shri Abhishek Ranjan,** Founder, sarkarischool.in

C B Sharma
Ex-Chairman, NIOS

Prof. B V Ramana Reddy
GGSIP University

In NEP 2020, initially 33 vocational training subjects were identified, which were further divided into 23 in higher education and 10 in school education. The major concern in implementation of NEP2020 is basically when a student is hails from a first generation learner family.The present education system doesn't cater to the special needs of such children. With NEP 2020 now introducing vocational education in school education will help all those who drop out of the school system under various pressures. The vital changes which are going to take place are that there will be Incubation centers now and laboratories with proper equipments will also be set up. A cluster of schools will be formed which can share the resources and do experiments.

According to Macaulay, who played a major role in the introduction of english and western concepts to education in India had created a significant mindset that english was the only primary core subject. It is time to reverse the mindset. NEP

2020 will give importance to the mother-tongue and the education would be Bharat centric.NEP 2020 also talks about 10 days workshops to be conducted for without bags and only to enhance the observation skills of students.

The present curriculum has been centered around the materialistic world. The current mess has been created in this country because we have put all important subjects into non-curricular content such as NCC, NSS, human values and all other vocational subjects as well. The first and foremost important thing is to make our children a better human being and after that we have to provide them with the skills so that they can earn their own daily bread.NEP 2020supports the above reforms but the only problem is that how are we going to implement the policy. Self evaluation and self belief are very important in this process. We have to come together and respect the vocational training with dignity. We should introduce 100 different vocational courses in schools and implement them across the country. It is a costly solution but a much needed one. Professionals can be hired on a contractual or part time basis and these courses can be introduced from Standard onwards for now. The teachers have to step in, be sensible and understand that the time has come when we have to shed our reservations & think positively.

Role of Language in School Education

- **Webinar Date & Time :**
  December 1, 2020 | 3 PM onwards
- **Speakers :**
  Dr. Kuldeep Agnihotri, Vice Chancellor, Central University of Himachal Pradesh.

  Prof. Vrishabh P Jain, Professor & Director, Mahatma Gandhi International Hindi University.
- **Moderated by :**
  Prof. Manjushree Sardeshpande, Head of English Department, R S Mundle Dharampeth Arts & Commerce College.

Dr. Kuldeep Agnihotri
Vice Chancellor,
Central University of Himachal Pradesh.

Prof. Vrishabh P Jain
Professor & Director,
Mahatma Gandhi International Hindi University.

Beyond being a means of communication, language is also a marker of one's culture and identity.Education plays an important role in cultivatinglove for language and handling language beautifully.Mother tongue is the best medium to impartthought and knowledge.The bright future of students in the fields of science, social sciences and literature can be ensured only if Indian languages and education are intertwined.

Children's curiosity to learn new things is most prevalent in childhood. Mother tongue is the language that helps children learn and understand during this period. It is very important to decide what to teach children at each age.It is also important to know what language should it be taught in as well.Learning in the mother tongue is essential for the character and human development of our children.According to a research, the basic ideas in the mind of a student are formed in the mother tongue only. The sad part in India today is that the mother tongue is continuously being

forgotten. Today, we are in an ironical situation where there is no language but knowledge. The more we forget our language, the more backwards we move. NEP 2020 recognises these challenges and brings in provisions to change the scenario.

India is a land of multiple languages. Many different languages are spoken across India. But, many of themare losing their significance today.When a language dies, so does a culture. Language is an essential element not only for an individual but also for the society. NEP 2020 contains precise instructions on how to preserve and nurture our languages. If we look at the history of India, the study of languages has been important since ancient times. Many grammatical and literary books were written for languages. We again need to write such books to promote our indigenous languages.

According to the speaker, education was considered as a service in earlier society. It has become a lucrative business today. Education is not only important for nation building but also for the world going forward.We need to understand that India's development is possible only by preserving the entire spectrum of languages in our country.

NCF and Pedagogy

- **Webinar Date & Time :**
  December 2, 2020 | 3 PM onwards
- **Speakers :**

  Prof. Ranjana Arora, Head RMSA Project Cell, NCERT.
  Prof. Govind , Chairman, National Book Trust, Ministry of Education, Govt. of India
- **Moderated by :**
  Shri Bhavesh bhai Rawal

Prof. Ranjana Arora
Head RMSA Project Cell,
NCERT.

Prof. Govind , Chairman, National Book Trust, Ministry of Education, Govt. of India

Prof. Ranjana Arora talked about the importance of curriculum in the holistic development of students by the way of the National Curriculum framework in which we have to keep the vital focus on the 21st century challenges and skills. The policy also talks about the deep roots or the deep seed of potential inside the student that has to be nurtured and provided with opportunities and as the NEP states an approach "Away from Rote Learning '' has to be taken forward. The policy also talks about the cultural values, which is an important subject, as it imparts the student with humanistic values.

The Policy states about the Holistic development of the student by the Curriculum Framework, which has been divided into 4 types namely : National Curriculum for Early Childhood Care and Education, National Curriculum for

Entire School Education which will also include ECCE, National Curriculum for Adult Education and National Curriculum for Teacher education.The policy suggests pedagogical revamp of all these four curriculums. The policy suggests that the pedagogy and curriculum should have enough flexibility as well. Early identification of interests and talent of individual children must be done and they should be nurtured accordingly. The policy recognises that every student of a particular age group has different characteristics. The four stages are : Foundation stage which talks about creative learning such as 'Multi-Level Playing Activity' based learning, Preparatory stage, Middle stage and Secondary Stage.

The Policy states that the Curriculum should be renewed and be made competency based curriculum so that it includes knowledge, skill and attitude. The Policy gives choice to the student to choose any subject according to their liking rather than choices being fixed to rigid compartments like Arts, Sciences and Commerce. Digital literacy should be brought in the curriculum with proper infrastructure availability at all places.

Prof. Govind stated that the policy includes all vital parts of education and talks about everything necessary. The Important part of the policy is the curriculum and its content. The National Curriculum Framework discussed in NEP 2020 starts from Anganwadi which has generally been ignored in all previous policies. Early childhood care and education has been given importance as it lays the foundation of every child. The NCF should also include content related to Indian history and culture.Experimental and experiential learning should be given importance. The curriculum should give more importance to post independence content rather than pre independence content. The curriculum content should be deeply thought over and should teach the students about the present situation rather than teaching about the british rulers and mughal rulers.Book reading culture should be developed. Books should contain random beautiful pictures to arouse the curiosity of the children and make them learn through imagination.

Online and Blended Learning

- **Webinar Date & Time :**
  December 3, 2020 | 3 PM onwards
- **Speaker :**
  Prof. Madhusudan J V, Associate Professor, University of Hyderabad.
- **Chairperson :**
  Dr. E. Ramganesh, Chairperson, School of Education, Bharathidasan University
- **Moderated by :**
  Shri Anurag Singhal, Director, Doon Valley School

Prof. Madhusudan J V
Associate Professor,
University of Hyderabad.

Prof. Ramganesh started by pointing out that the technology would not be replacing teacher in a class room rather a teacher not using any technology would be replaced by a teacher who is using technology. Blended learning would be an important tool for the 21st century. It is the way forward for our teachers and we should be able to develop creative & interactive content for the students. We need to up impart skills to our teachers. We need to integrate current education with digital education. At some places, students denied to attend online classes as they tend to become boring after some time. Thus, blended learning is the way forward and not only online learning. Now, many educational platforms are available so the student has choice to learn from the desired place. Online classes have their drawbacks as well. Students can not see or meet their friends,

lack of two way communication, language barriers, internet connectivity issues etc. There is a shift from central nervous system to digital nervous system. Students must be able to differentiate between Data, information, Knowledge (Knowing that), wisdom (Knowing how) and transformation (Knowing why).

Dr. Madhusudan told that the Central idea of NEP 2020 is skill development for example digital literacy, coding and computational thinking all aimed at making India a global knowledge super power. The focus areas of the policy are technology use and digital integration. The twin questions are how that can be done and how can equity be ensured in the use of technology. There is a bi directional relationship between education and technology. When technological growth occurs, it will affect technology as well and vice versa.

We should focus on problem solving approach as it would lead to higher quality. We should search for best practices, appraise the evidence, facilitate integration with the field and evaluate the outcome of the practices. The research has to be collaborative with seamless integration of technical and educational front. There is huge scope of reforms in the way we teach education technology in our country. Modification and upgradation of the concerned syllabus needs to be done. Data collection of educational institutions, processes of teaching, learning, assessment and school management should be completed. Educational data mining and analytics like on similar grounds as is done in business sector will act as a tool for sharing of best practices. National education technology forum should provide independent evidence-based advice to central and state government agencies on technology based interventions.

School Complex

- **Webinar Date & Time :**
  December 7, 2020 | 11 AM onwards
- **Speakers :**
  Shri Sandeep Joshi, Innovative Govt. School Teacher, Rajasthan.
  Prof. K. M. Tripathi, Member, Drafting Committee for National Education Policy.
- **Moderated by :**
  Shri Abhishek Ranjan, Founder, sarkarischool.in

The speakers initially touched upon the importance of school complexes during the discussion. Dr. Tripathi mentioned that the necessity of such a system of governance arose from the vast number of primary schools with lower intake of students, that are found to be lacking in infrastructure such as libraries and special educators for extracurricular subjects, facilities that are found in most secondary and high schools. The system is centered around a senior secondary school connecting with the various primary and secondary schools in a 10-15 km radius to ensure the presence of all facilities and administrative capabilities for the benefit of the students. School complexes/clusters have the potential to complement and enhance the outcome of India's existing schooling system and allow to focus on the individual student and their capabilities.

Shri Sandeep Joshi
Innovative Govt. School Teacher, Rajasthan.

Prof. K. M. Tripathi
Member, Drafting Committee for National Education Policy.

Mr. Joshi suggested that school complexes can eliminate deficiencies in existing schools through the pooling of resources and create a level playing field that makes it easy for schools even with few students and resources to have the same facilities available without having to spend beyond their means. He pointed out the presence of a similar system currently in place in Rajasthan where the Panchayat Elementary Education Officers over see the schools under their jurisdiction and coordinate the sharing of staff and resources across campuses. While there was agreement upon the need for school complexes, it was also acknowledged that implementation of such a large scale system will come with its own set of challenges.

Mr. Ranjan noted that while rural India has a sizeable number of primary schools, there are comparatively fewer secondary and higher secondary schools which make the blanket implementation of school complexes fairly challenging. Given that the new structure recommends a '5+3+3+4' system, the new school complexes would need to bring Anganwadis, who had largely been separate from school units, into these clusters as well.

Dr. Tripathi said that besides ensuring adequate provision of resources, attention will also need to be devoted to adequate implementation of processes through frequent performance appraisals and data collection across schools in clusters. He pointed out that currently, the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) makes provisions to ensure the construction of secondary schools within 7-10km radius of any habitation. The government needs to push implementation in rural areas to support the administration of clusters in the immediate future. Full-fledged school complexes running with consistent governmental support can help the project gain and maintain momentum in rural areas.

Mr. Joshi believes bringing Anganwadis in the fold will ensure that apart from the play-based learning model currently in practice, the children will also be exposed to a more formal style of education from a younger age and prepare themselves for primary school. This will subsequently drive the level of learning in higher classes as well. He noted that while India's education had previously been largely a societal responsibility in the pre-colonisation era, things had changed significantly during British era and continues to change even in post independence times. A return to ensuring greater participation of society in our schooling system could reduce the burden of teachers in rural areas and also ensure a higher quality of education on the whole. The new education policy has made it easier for this to happen and it is an opportunity that needs to be embraced by the public for social good.

Dr. Tripathi suggested that school complexes will be appointed additional resource persons with the experience and knowledge required to oversee the sharing of resources in the clusters and mitigate the clash in teaching methods across schools through effective guidance and training in the long run. He highlighted how school complexes were first mentioned in the Kothari Commission Report but faced numerous challenges over the years, due to which they have not yet been implemented on a large scale. The time has come for school complexes to be implemented across the nation.

Teacher Education and Development Report

- **Webinar Date & Time :**
  December 8, 2020 | 3 PM onwards
- **Speakers :**
  Dr. B.B. Ramanuj, Professor and Head, Dept. of Education, Saurashtra University.
  Dr. Ashok Pandey, Director, Ahlcon Group of Schools
- **Moderated by : Shri Anurag Singhal,** Director, Doon Valley School

Dr. B.B. Ramanuj
Professor and Head,
Dept. of Education,
Saurashtra University

Dr. Ashok Pandey
Director,
Ahlcon Group of Schools

Teacher education and development represents an essential facet in our educational landscape today, given our massive population of youth who need the right guidance and student-teacher relationships in order to reach their maximum potential. Appropriate teacher development that brings the best out of teachers presents a way to the government and stakeholder institutions that can solve the numerous challenges that need to be identified and subsequently addressed.

Dr. Pandey suggests that it is essential to restore respect for teachers and the profession of teaching. Teachers must be accorded the highest status and respect in society and only then can society hold them accountable for what they are supposed to do. NEP 2020 has highlighted the same. He dwelt upon the importance of provisioning early childhood care and education (ECCE), which is currently not

available to crores of young children in India. To ramp up and deliver ECCE to every young child, the immediate need is to train and prepare adequate number of teachers to cater to our entire young population as soon as possible.NEP 2020 states that "teachers will be given continuous opportunities for self-improvement and to learn the latest innovations and advances in their professions." While teachers have been going through professional development before, the process has been externally regulated, non-contextual and not necessarily aligned with local needs or their performance. The role of the teachers will go beyond the traditional teaching of subject matter. It would be essential for them to maintain a strong and influential connection with their students, empathise with them, evaluate and respect the difference in learning styles and educate & support them accordingly. While the best minds in the country need to be moving towards the teaching profession, there is insufficient motivation at present for this to happen. Currently, the ratio of awards for teachers to the number of teachers is dismally low and there is a need to grow this number at the national level to provide additional motivation and recognition of achievement for teachers across the country.

Dr. Pandey opined that whether teaching institutions are profitable or not, if they ultimately fail to produce a motivated and well-groomed crop of teachers then they would have failed in their mission entirely. Mr. Ramanuj felt that at present, a lot of students are not attending college regularly and the responsibility also falls on the state government and the universities in question. Teacher eligibility tests may cover knowledge of subject matter, but a more holistic approach would be needed to evaluate teaching ability perhaps by assessing their work in a practical environment as well. The speakers also touched upon various actions that could improve the quality and effectiveness of teacher education in the country.

Dr. Pandey highlighted the importance of incentivising the profession and highlighted several options including improved profiles, featuring their work where possible, involving them in decision making, supporting their professional learning and making new opportunities available to them. He suggested that the whole process of expanding ECCE will require data collection, analysis, need projection, funding, learning material and research & development. With respect to continuous growth for teachers, there needs to be a more culturally-embedded approach from institutions nurturing a process that is locally designed through collaboration and based on need analysis as well as linked with outcomes at every step. The policy also hints at an intentional climate setting professional development on campus using reflection and standard tools, based on Current

Status Analysis and Training Needs Analysis, that focuses on continuous in-service education and aligns the individual and collective efficacy of teachers.

Essentially, it is crucial to foster leadership among the teachers and unleash their potential as only then would they be in best position to help unleash the potential of their students. Teachers will need to be taught to recognise and foster student agency and involve them in the teaching process as it has the potential to optimise their growth through experiential, interdisciplinary and ultimately self-directed learning. The right environment needs to be created by the council and institutions to invite the best minds in the country to make teaching their first choice of career. There is a need to get the whole country on the same page about the importance of teaching and education as principal assets in our quest for further development.

ECCE (Anganwadi)

- **Webinar Date & Time :**
  December 11, 2020 | 11 AM onwards
- **Speakers :**
  Prof. Harshad Shah, Vice Chancellor, Children's University, Gandhinagar.
  Dr. Reetu Chandra, Dept. of Elementary Education, NCERT
- **Chairperson : Prof. Venita Kaul,** Prof. Emerita and Founder CECED, Ambedkar University
- **Moderated by : Veena Goel ji,** Principal, Vidya Bharati School

Prof. Venita Kaul started by emphasising on the significance of integration of pre-school and how important the foundation is for building strong pillars of education. According to various researches, it has been noticed that formal teaching methods are actually detrimental for a child's development as it hinders a child's cumulative brain development that occurs prior to the age of 6 and further it stands as an obstacle in shaping up of a quality human asset and strong foundational literacy. For this reason, instead of a downward extension of the curriculum there should be an upward extension from Pre School to primary as learning itself is a continuous and cumulative process. While NEP focuses on the benefits of early childhood education, there have been few steps proposed as a solution to various problems faced by Anganwadis and Balvatikas. In

Prof. Harshad Shah
Vice Chancellor, Children's University, Gandhinagar

Dr. Reetu Chandra
Dept. of Elementary Education, NCERT

most of the states, almost every child joins school by the age of 5-6.Instead of directly sending them to class 1, there should be a rule of completing 1 year of 'Balvatika' which is a preparatory class before moving to Class 1. She outlined six crucial C's which are important to be considered in order to avoid unrealistic goals as they lead to failure. These six Cs are: Child Centered Curriculum, Community Awareness and Involvement, Communication Strategy, Capacity Building, Convergence and Cost of Budget.

She is very proud to say that Ambedkar University along with ASER centre conducted a longitudinal research on the whole Early Childhood Care and Education Policy which was called the India Early Childhood Education Impact study. Researchers found that the students who have received a good quality preschool education not in terms of infrastructure but a good appropriate methodology in terms of curriculum were better learners and had a strong foundational knowledge. This study gave a very strong evidence for the need to have a reform at the preprimary stage to be able to influence the learning levels of school systems. The other study suggests formal teaching lowers the levels of cognitive readiness of a 5 year old child. In a research conducted in association with World Blank where brain growth graph and financial provision graph were correlated, it was found that growth was maximum in early years and the amount of financial investment is the least. This is the area where most development needs to be done in order for a brighter future of our country.

Dr. Reetu Chandrastarted by explaining the need of focusing on early childhood care and education and how NCERT conceives it. She described how we never focus on early childhood care and education in terms of funding. With the help of a diagram, she elucidated the impact of pre school years experience on a child's overall development. Universal access to ECCE will play a key role along with Balvatika and Foundational learning curriculums. NEP has adopted very progressive strategy as it emphasises more on what a child learns during their formative years which includes logical thinking, relationship with nature, teamwork and collaboration, art, crafts and music etc. Three different goals of Preschool education have been set up by NCERT in order to ensure a child friendly environment. Taking about the the pedagogy of preschool education, She told that the ECCE framework is under process. She also talked about the possible timeline for implementation of ECCE and the new assessment pattern.

Prof. Harshad Shah highlighted the importance of imparting education in the mother tongue. If we want to convey our message to everyone then the best way would be to communicate in our mother tongue because this will ensure

that more people will understand what NEP is trying to do and how useful it is for every child. If we want to bring a change, then instead of giving importance to English we must shift our focus to Hindi. Imparting education in the mother tongue will ensure universal access to education. Learning environment must be provided to the children as it focuses on psychological growth, free will and personal awareness. Every parent and teacher must understand that charity begins at home. This means that initially child learns all his values from his environment. That's why we must ensure that the child is surrounded by good things. A collaborative behaviour between parents and teachers is the need of the hour.

It's been 73 years of independence and we have lost many things and not only this, but we have also ingrained many things from British Culture. We give immense importance to unimportant things. Now, in order to reconnect with our roots, every child must be ensured holistic education and not just mere book learning. Our scriptures have analyzed human existence in many ways. Education is the pathway which leads one to a developed state.

Drop Out and Universal Access

- **Webinar Date & Time :**
  December 14, 2020 | 11 AM onwards
- **Speaker :**
  Prof. Prakash Agarwal, Principal, RIE Bhubaneswar
- **Moderated by :**
  Dr. Shashi Ranjan Akela, Public Relations Officer, RGPV Bhopal

Prof. Prakash Agarwal
Principal, RIE Bhubaneswar

Education is the 4th of all Sustainable Development Goals adopted by the Government of India in 2015 which aims at inclusive education. Keeping that in mind, New National Education policy that has been rolled out is a balanced one. It aims at school education for all. Dropout has been a major issue across the nation, approximately 2 crore students dropout from schools after standard 5.Issue of accessibility to schools is one of the major concerns. The number of schools either don't cater to the strength of the students or are far off from where the students stay. There is a need to open up more schools or increase the number of sections in the existing schools to cater to the needs of the students. The schools need to be close to where the children stay. Primary schools in particular should be very close to where children reside.

Another major issue is socio-cultural and economic issue. The problem of early marriage and bias against girl education leads to major chunk of drop out. The mindset which believes that girls are only meant for household chores has to be strictly done away with through proper counseling and awareness. The low income of parents makes it impossible for them to provide proper education to their children and they keep them at home to look after the livelihood. Schools and educational institutions have to endeavour to reach out to this section of students and help make them enroll and guide them to continue their education. Sometimes due to malnutrition, children suffer from various diseases and due to poor health they withdraw themselves from the school education. Proper health counseling is essential for these students regarding nutrition and health care.

There is lack of proper infrastructure in the schools, hence there is a dire need to develop quality infrastructure which will make schools attractive for children. It is seriously noted that lack of transportation facilities in the rural areas leads to low enrolment rate or high dropout rate, hence we also have to develop effective transportation facilities. It is also noted that there is high paucity of teachers and we can also find that there are schools such as Ekal schools where for whole school there is only one teacher. We need to increase the number of teachers to effectively make school life enjoyable for children. Students learn from their natural psychological capacity. When the system puts extra pressure, students withdraw themselves from the system as they are unable to cope up with it.

The compulsory education age should be raised from 6-14 to 3-18 years. We need to construct proper school complexes and clusters which will make schools more attractive and accessible to students. In case of low enrolment areas, various schools can be merged and resources can be shared. There should be proper hostels so that students need not have to travel distances daily thereby saving their time and energy. There should be proper compliant redressal system including secret complaint boxes so that students who hesitate to say in open can put forth their complaints there. The mechanism thus developed should ensure proper redressal of problems. There should be no homework for lower classes and very little homework for others thereby reducing the burden on the students.

ECCE (Foundational Numeracy and Literacy)

- **Webinar Date & Time :**
  December 14, 2020 | 3 PM onwards
- **Speakers :** **Prof. Usha ,** Dept. of Elementary Education, NCERT

  Shri Divyanshu Dave, Ex-DG, Children's University, Gandhinagar
- **Moderated by : Shri Vipin Rathi,** Principal, Saraswati Shishu Mandir

Prof. Usha
Dept. of Elementary Education, NCERT

Shri Divyanshu Dave
Ex-DG, Children's University, Gandhinagar

Prof. Uma Ji started with the challenges which any policy always faces for implementation because of the wide diversity and multicultural society we live in. She marks the importance of immediate environment, people, geographical and linguistic factors which play a significant role in shaping the personalitis of the children. The role of policy makers, government, institutions, teachers, parents and their relationship with the students should be well defined as it creates a long term impact on a child's overall growth. The monotony associated with the elementary school teaching method actually kills the creativity of the young minds and hampers their learning process. An interaction based study model free from the bias of adults and more focused on independence of children will actually produce better results. Reading and writing is associated with meaningful

objects. Teaching only with the alphabets in initial stages actually creates a vacuum between a child's natural grasping power and the served content. Language barrier between teacher and students especially in tribal belt needs to be solved. The nature and grammar of languages are widely different across regions, so development of abundant study material in regional languages is the immediate necessity. Confidence needs to be inculcated in children's mind that whatever they speak will not be judged rather appreciated by the teacher irrespective of one's personal understanding. Change is the necessity of time and the time has come to take concrete steps.

Divyanshu Dave Ji stated that if we want to make our children true Indian nationals, then the foremost thing required is to teach them about our beautiful nation BHARAT. To preserve the diversity of cultures and languages is the only way to maintain unity across regional differences. Mathematics is not only a subject of counting rather it defines the hierarchy of establishments and there is a dire need to teach mathematics with a research based methodological approach. Yoga and Pranayama in schools will increase the concentration power of the children and will help them to focus on studies as it creates a positive impact on their grasping power. Teaching through 3D models and technologically upgraded gadgets can make the learning process more interactive and interesting. There is a need of reducing burden by eliminating the unrelated content, illogical instruction methods and fractured assessment patterns. Usage of arts and sports in early education and experience based evaluation criteria will make the learning process enjoyable. The detachment of first and second standard from primary schooling and its inclusion in elementary education is a revolutionary proposal in NEP. The behaviour of parents, family members, society and community plays a vital role in character building of the child. The parents also need to be sensitised, made aware and educated about the importance of their child's education.

Equitable and Inclusive School Education

C B Sharma
Ex-Chairman, NIOS

Dr. Pankaj Kumar
Assistant Professor,
NIEPVD, Dehradun

- **Webinar Date & Time :**
  December 15, 2020 | 11 AM onwards
- **Speakers :**
  Prof. C B Sharma , Ex-Chairman, NIOS, &
  Dr. Pankaj Kumar, Assistant Professor, NIEPVD, Dehradun
- **Moderated by : Shri Murali Manohar P,** Lecturer, Government Junior College, Rajendranagar

NEP 2020 is focusing majorly on those students who had been left or have not been focused adequately in the previous education policies. NEP 2020 talks about learning multiple languages. In a survey concluded across various parts of India, it was found that language plays a vital part in the Indian Education system. The present education system gives major importance to English language in learning of all core and non-core subjects whereas, in India, a significant part of the students only know the local Language. NEP 2020 promotes multilingualism and the power of language in teaching and learning.

The children who are below the poverty line drop out of school because they are too weak to cope up with the pressure of the school and they only come to the school with the intention to eat a mid-day meal. NEP 2020 will also provide breakfast

to the students to enable them to energise themselves before learning for classes. Women who want to become teachers in a village should be given an opportunity to be a teacher in their own village rather than transferring.NEP 2020 also gives importance to sign language and the curriculum will be set based on the same. The gifted students will also be taken care of properly.

Inclusive and Equitable Education in which every citizen has the opportunity to dream, thrive, and contribute to the nation. There are the socio-economically disadvantaged groups (SEDGs) in India based on various identities such as gender identities, socio-cultural & economic identities and geographical identities.Our country has around 2.8 Crore persons with disabilities. NEP 2020 should make such socially and economically backward areas having sufficient population into Special Education Zones(SEZs).Providing quality education to girls is the best way to increase the education levels for these SEDGs. Jawahar Navodaya Vidyalayas & Kendriya Vidyalayas should be built across the country especially in aspirational districts. There should be a 'Gender-inclusion fund' (specifically for female gender) and an 'Inclusion fund' as well. All scholarships and other opportunities & schemes available to students from SEDGs should be coordinated and announced by a single agency. The process should be completed with a single window system and the information should be provided via a single dedicated portal. This Policy is in complete consonance with the provisions of the RPWD Act 2016 and endorses all its recommendations with regard to school education. As per the RPWD Act 2016, children with benchmark disabilities shall have the choice of regular or special schooling.

Indian Knowledge and Wisdom in Schools

Dr. Rishi Goel
Director, SCERT Haryana

Dr K V Singh Shakya
Former Principal, Saraswati Vihar Nainital & Member, UPSESSB Prayagraj

- **Webinar Date & Time :**
  December 19, 2020 | 3 PM onwards
- **Speakers :**
  Dr. Rishi Goel, Director, SCERT Haryana
  Dr K V Singh Shakya, Former Principal, Saraswati Vihar Nainital & Member, UPSESSB Prayagraj
- **Chairperson :**
  Prof. Pawan Sinha, Dept. of Political Science, Motilal Nehru College
- **Moderated by : Shri Shivraj ji**

The school education must prepare the student for life in both mental and physical aspects. The major attention should be given to health and education of the children and it is recommended that every day there must be at least some sports activity for the students. Every school should look after the mental health of students and have counseling facilities. The Indian knowledge of physical sports will also give a holistic development to the student. NEP 2020 suggests 4 stages of schooling in a '5+3++3+4' model .In the foundation stage, the importance should be given towards language proficiency and numerical aptitude. After this stage, importance should be given to subjects like Indian history and environmental sciences. Indian knowledge system boasts of many mathematical and scientific discoveries and inventions. Students must be taught about all this

so that they develop self pride in themselves and their culture. Sanskrit should be taught as a mandatory language.

Students should be taught four things: Learning to know, Learning to do, Learning to live together and Learning to be since the beginning only. Education and information are two different things. Our students should be educated and not merely fed with information. There should be creation of knowledge in the student's mind after they are given some information. The student should not be made attached to one aspect of anything and must be taught all perspectives. According to Indian culture, the student must be taught to have a peaceful soul that means getting out of any problem should be taught from early childhood.

There must be active involvement of the children in studies through experiments and experiences of the student. The integration of arts in studies like music, dance, painting etc develops students holistically. Each and every child has potential. The principal and teacher need to realise and capitalise on this potential. The module to be followed for the student is Realise, Recognise and Capitalise. The outcome for a student trained in such a way would be successful.

NEP 2020 is an involvement of knowledge, understanding, application, analysation, synthesization, evaluation and creation of knowledge. The notebooks of the student should be checked by the module of FEWFM - Fill, Entry, Writing, Feedback of correction and maintenance. This will encourage the students.

Impact of National Education Policy on Agricultural Education

Dr. Shivendra Kashyap
Dean, College of Agriculture, GBPUAT

Dr. R C Agarwal
DDG (Education), ICAR

- **Webinar Date & Time :**
  November 26, 2020 | 3 PM onwards
- **Speakers :**
  Dr. Shivendra Kashyap,
  Dean, College of Agriculture, GBPUAT &
  Dr. R C Agarwal, DDG (Education), ICAR
- **Moderated by :**
  Dr. Raman Kumar Trivedi, Director of Students' Welfare, Bihar Animal Sciences University

Vidya Bharati Uchcha Shiksha Sansthan had organised this webinar with a view to understand the current situation prevailing in agricultural universities and to start a discussion on the same to generate fresh ideas with snowballing effect. Apart from two eminent speakers, the guests also included many Vice chancellors, Deans, members and administrators of various academic regulatory bodies and top academicians.

Team MyNEP had raised several questions during its initial research on this topic viz. the palpable gap between the skill being provided by our universities and the skill required in the ground & by industrial bodies, the issue of anachronistic curriculum & syllabus and lack of timely upgradation of the same, lack of enrolments in agricultural institutions despite there being

adequate emerging career opportunities and agriculture being a perennial field of necessity, our low agricultural productivity when compared with nations like china despite of having favourable climate, soil, rainfall etc, agricultural universities being in silos and lack of multi disciplinary interactions in the sector, contemporary youth today having less exposure of village life and not aware or enthusiastic about agriculture as a profession.

Our speaker Dean Kashyap started by saying that Dr. S. Radhakrishnan who had chaired first University Knowledge Commission (1948) had envisaged agricultural universities inspired by the land grants universities of USA which became harbingers of economic development in whole USA. But, that dream still remains unfulfilled for us even today. He talked about giving flexibility to students in particular so that they can plan their career as per their abilities and life situation. If some student wants to become and agripreneur after one year into the degree then they should be given that opportunity and if some student is unable to study to continue their education in present and need to work in agriculture fields with their families that should also be acceptable, making sure that they get ample facilitation to resume their education as and when feasible. One of the esteemed guests, Dr. Prabhat noted that faculties have a key role to play in curriculum designing but at the same time emphasising that all the stakeholders concerned like students, private entities involved in agriculture, government sector including industry people should be a part of the process. He also talked about spreading awareness about the career prospects and opportunities in the agricultural education so that it becomes a natural preferred choice. Dr. Agarwal speaking about graded autonomy plans told that it is important and is being facilitated progressively but he also said that autonomy comes with accountability & transparency. He noted that even existing projects are pending with money sent by ICAR lying unused because many times the head of institutions do not take enough initiatives and fear while starting some reform under their leadership. Honourable speaker ended on a positive note that NEP 2020 is in the right spirit and direction and through it our agricultural universities can work in tandem with the rural society to become engines of rural development at the same time providing meaningful employment to our emerging youth population and reducing the hardships of marginal farmer families as well.

Impact of National Education Policy on Technical Education

- **Webinar Date & Time :**
  November 27, 2020 | 3 PM onwards
- **Speaker :**
  Prof. Milind Marathe, Associate Professor, K J Somaiya College
- **Moderated by :**
  Shri Pratik Suthar, National Convener, Think India

Prof. Milind Marathe
Associate Professor,
K J Somaiya College

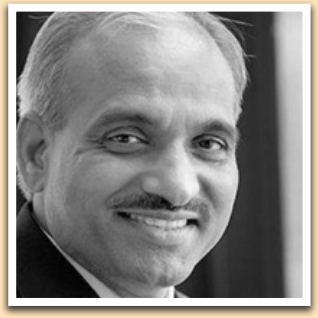
Prof. Milind Marathe ji spoke about the impact of New National Educational Policy on Technical Education and Technical Institutes at length. The first spirit of NEP which impacts Technical Education is revolving around flexibility in terms of multiple entries and exists, wide variety of options available for students to choose subjects of their choice and interdisciplinary nature of courses and institutions. The second spirit of NEP is life long learning capabilities that will train the mind of the students in such a way that they will always be in eager to learn something. The third one is the decentralised approach and autonomy. The next is promotion of research culture and extension services and preparing students not just for marks but for life developing hard skills and soft skills together.

The participatory nature such as sharing of ICT tools across educational institutions will give a boost to learning as accessibility will be increased. Resources which are available in an institute may not be available in the other and something available in the other may not be available in the first one. Hence, if resources are shared then a strong co-ordination can be built and the entire technical fraternity may be benefited from that.

Learning while doing helps students to develop practical and analytical skills that will prepare the student to be more community oriented. Curriculum changes such as in methodology, pedagogy etc will start a transformation which is going to have a huge positive impact on technical education.

The new education policy will bring such changes that the artificiel intelligence and other such disruptive technologies will play a central role thereby helping students to learn and innovate through which technology can be developed thereby benefitting them commercially as well. We can say that it will be a path towards Industrial Revolution 4.0 which will incur employment generation. India is planning to shift to electric vehicles by 2030. Thus, the curriculum should be such that students can themselves develop ideas to generate economically viable and simplified yet effective modern technologies.

Institutional Governance and Academic Leadership



Dr. Bhimaraya Metri
Director, IIM Nagpur

Dr. Mahadeo Jaiswal
Director, IIM Sambalpur

- **Webinar Date & Time :**
  November 30, 2020 | 3 PM onwards
- **Speakers :**
  Dr. Bhimaraya Metri, Director, IIM Nagpur
  Dr. Mahadeo Jaiswal, Director, IIM Sambalpur
- **Moderated by :**
  Prof. Prashant Gupta, Associate Professor, IIM Trichy

Higher Education Institutes (HEIs) should possess a frame of academic hierarchy where leadership is situated above seniority. In this sense, a democratic set-up within the institution should be promoted and all the opinions, regardless of where they come from, should be appreciated and considered. In order to have a good Institutional governance, a sound planning along with efficient execution is necessary. In order to have timely implementation of the policy, the administration should be allotted with more autonomy.

The implementation of NEP shouldn't be abrupt. This can hinder the on-going process of imparting quality education in the institutions. The transformation of adapting to NEP 2020 should be smooth.

In order to have a smooth transition, it is recommended to accommodate a concept of 'Distributed Leadership' within the institutions. The autonomous powers: academic, administrative or financial, should not be centralized. The concept is based on the idea that in order to have a good academic set-up, regardless of who the leaders are, the conventional concepts of leadership should be changed. While having a Top-down approach is appreciated, it is also recommended that the institutions should adapt an effective Bottom-up approach towards implementation of ideas and policies in education.

Instead of waiting for the guidelines from higher authorities, measures to attain the maximal utility in the academic set-up should be implemented at all costs. There should be regular communication between the institutions. This will ensure coordination. There should be frequent discussions amongst administration, students and the staff to ensure a harmonious environment. Along with the concept of Distributed Leadership, the notion of 'Collective Leadership' should be introduced. Collective leadership, analogous to distributive leadership, is a way to avoid the centralisation of autonomy.

The Teaching Pedagogy should include collaboration and experimentation in order to achieve academic excellence. Instead of blindly following the general norms of institutional administration introduced by the Western culture, one should harbour traditional Indian values into the academic culture. Higher Educational Institutions should focus on Contextual Decision-Making. Along with autonomy, comes the accountability. In order to ensure this, Corporate Social Responsibility (CSR) of HEIs should be ascertained.

Impetus to quality research through National Research Foundation

- **Webinar Date & Time :**
  December 1, 2020 | 11 AM onwards
- **Speaker :**
  Prof. V. K. Malhotra, Member Secretary, ICSSR
- **Moderated by :**
  Gaurav Sundaram, Research Scholar, IIT Patna

Prof. V. K. Malhotra
Member Secretary, ICSSR

Research & Innovation drives a country's fortunes and economy as well. A study done by European Union reveals that the money spent on R&I by a country accrues into around five fold return in the economy apart from many other benefits. When compared with world's most developed and even comparable emerging countries, our spending on research is abysmally low. Many universities lack serious research atmosphere and rigorous infrastructure. State universities in particular lack research acumen, funding and support where 93% of the students study. Vidya Bharati Uchcha Shiksha Sansthan posed all these questions through our concept note on this issue and honourable speaker answered very candidly and in detail.

Dr. Malhotra started by emphasising that our presence in World's top 100 universities should

increase with time. He said that the parameters to judge how a university is performing in terms of their contribution is knowledge creation, infrastructure and the role that the degree holders are playing in the society. NEP 2020 focuses on increasing the accessibility and quality of education. On the scientific temper of our community, he revealed that India has been a scientific society since ancient times only with significant research in the field of medical science & surgery, literature, grammar, architecture, metallurgy etc and with the presence of famous universities like Nalanda and Takshashila. There has been considerable debate on a balance between ancient civilisational values and scientific temperament. Our speaker suggested that both these can go hand in hand and even cited examples of countries like Japan, South Korea, Taiwan etc who have advanced but at the same time have been rooted in their nationalistic heritage. He quoted that researchers have established a positive co relation between multilingualism and initial brain development. Researches have also established that that if an initial year of education of a child is in one's own language then the results are better. The imposition of English is discouraging a lot of quality research and researchers alike. He called for a more dynamic society and proper infrastructure like availability of translators. He talked about a World Bank report which inferred that we as a society do not change easily and quickly. Honourable speaker said that we can cherish our ancient wisdom but at the same time we must be flexible, willing and adaptable to constructive change. On the question of plagiarism and motivated research, he suggested inculcating scientific approach, creativity, linguistic and presentation skills in the future researchers. About the mentors he said that they should have a problem solving approach towards existing social issues. He ended beautifully by reminding us that our country does not have dearth of talent. We need researchers who have urge to learn something and trainers who are capable to impart necessary knowledge. The digital infrastructure must be developed with last mile connectivity reaching into even the remotest of villages so that the best knowledge material is available to every student in one click only.

Journey towards Research Intensive Universities & Teaching Universities

- **Webinar Date & Time :**
  December 1, 2020 | 3 PM onwards
- **Speaker :**
  Dr. M. K. Sridhar, Member, UGC & Member Draft Committee for National Education Policy
- **Moderated by :**
  Dr. C. C. Tripathi, Professor, Kurukshetra University

Dr. M. K. Sridhar
Member, UGC & Member Draft Committee for National Education Policy

There are 2 dimensions to the policy: What is there in the Policy which basically one can know by reading the policy and actual implementation of the policy which requires awareness of the policy and understanding of the points mentioned in letter and spirit.

The Higher Education Segment is fragmented into universities, colleges, autonomous university, deemed university, central university, state university, deemed to be university and many other such categories. The classification in the present education system regarding the above universities or colleges is based on: who is the owner, who has started the college and who is running it. Is it a Private or a government university? Even during the affiliation of the colleges, the things that matter the most are whether its government or private.

But, the classification of the universities and colleges should have been based on the functioning of the universities such as Research based, Teaching based and Community Services based. Research and teaching are not hierarchical in nature, because they are two sides of the same coin. The main challenge is whether teaching and research go hand in hand. The NEP 2020, talks about the classification of Research Intensive & Teaching intensive universities which means none of the university is only research based or teaching based, but it is focused on the one with both going hand in hand and equivalent significances should be given to both. There is no different category of institution but the Institution Development Plan of the university can enumerate the focus in one of the competencies and that can be viewed in the functioning of the university. The track record of the university along with the future plans of the university will determine is the new accreditation level of the institutions in turn deciding the classification of the University. The research intensive university should be looking to create cutting edge global research and that will be the basis for the ranking for this type of university. NEP 2020 states that research intensive universities should not be more that 200 and teaching intensive universities can be numerically higher.

Talking about school level research Dr. Sridhar told that the School teacher will have to do action research which means making analysis of the subject by the help of facts and figures. The Policy also states that students from school time only should develop research orientation.

Multidisciplinary and Holistic Education

Prof. E. Suresh Kumar
Vice Chancellor, EFLU

Prof. Yugank Goyal
Assistant Dean, Jindal School of Liberal Arts & Humanities

- **Webinar Date & Time :**
  December 2, 2020 | 11 AM onwards
- **Speaker :**
  Prof. E. Suresh Kumar, Vice Chancellor, EFLU
  Prof. Yugank Goyal, Assistant Dean, Jindal School of Liberal Arts & Humanities
- **Moderated by :**
  Dr. Padmavathi B S, Director, CESS Bengaluru

The present education system has focused on theoretical learning with lesser emphasis on skills. The system is making students focus only on scoring more marks rather than having contemporary necessary knowledge. The Education system today lacks in skill building and when we have a look at NEP 2020 it gives importance to both skill and knowledge based learning.

India enjoys the benefit of demographic dividend today. Such a group will become a liability for us if we do not focus on their knowledge and skill building. NEP 2020 calls for proper training and imparting of knowledge to our youth generation so that they become an asset for the nation. The present Education system has been creating graduate, post graduate and doctorate degree holders without having much emphasis on their life afterwards and

career, on the other hand NEP 2020 aims for multi dimensional, multi disciplinary and holistic education in a continuum to provide socially useful knowledge.

The Present education system is linear & uni directional but NEP 2020 has given multidimensional routes wherein one can shift from one discipline to other and also take multiple subjects at one go. When you look at some of the developed countries the students there are given choice in selecting their subjects and this system has been found to be highly successful in creating individuals having critical thinking. NEP 2020 also proposes the three language formula in spirit so that students know at least 3 languages along with some foreign languages as well which will result in development of skills, capability to understand, and problem solving approach.

The flexible curriculum structure will enable the creative combination of multi disciplinary education and with the provision of multiple exit and entry points the rigidity will be removed. Credits will be given to all core and non core subjects. NEP 2020 aims at developing individual's humane, intellectual, aesthetic, social, physical and emotional capabilities in an integrated manner through multidisciplinary exposure. Initiatives such as Make in India, Digital India, Skill India and Startup India have been initiated with a goal to produce entrepreneurial job opportunities. The government is going to set up Multidisciplinary Education and Research Universities (MERUs) and this will help India in placing employment in a better position. Students at higher education institutes will be provided with ample opportunities for internship with local industries and start ups.

The present education system is creating a system where a student is only left with YES OR NO forfeiting all opportunities of creative thinking or innovative thought process. When the education system is unidirectional for e.g. engineering education then it negates the process of learning from different sources and inculcates skewed knowledge with rigid mindsets. The present education system is also leading towards separation from community such that the higher education one pursues, the chances of getting drifted apart from the society increases. The main purpose of education is to connect individual with the society but currently what is going on is exactly opposite. NEP 2020 focuses on multi disciplinary education which is indeed going to be beneficial for the society.

There must be changes in course syllabus making it more inter-disciplinary and multi-disciplinary. There must be changes in the recruitment process of the faculty members based on their teaching experience, quality of teaching and

research contribution. This process should take place at the faculty level rather than at the leadership level. Senior faculty members should decide what type of faculty is required in their department and major importance should be given to the applicants having exposure across multiple disciplines. The departments of institutions should be different than core subjects and the teachers should be provided with autonomy to teach with novel approaches. Professors of different disciplines can come together and discuss on a particular topic to present student with multiple perspectives. Similar process can be adopted for research purposes. There should be various conferences, summits, seminars etc., in the campus involving all different departments.

Students should be encouraged to take optional subjects outside their own departments and which are not related to their major subjects. Non traditional subjects should be encouraged and all this can only be successful if the dean is having a visionary leadership. Grassroots research should be promoted as it will automatically be multi disciplinary. A person going to the ground gets exposure to learn all view points concerning various life issues. State of the art multi disciplinary research centers should be started having adequately qualified professors. STEM education has to be replaced with STEAM education.

Institutional Development Plan

- **Webinar Date & Time :**
  December 3, 2020 | 11 AM onwards
- **Speaker :**
  Prof. Sunaina Singh,
  Vice Chancellor, Nalanda University
- **Moderated by :**
  Prof. M. Nagalingam, Dept. of Social Work, Indira Gandhi National Tribal University

Prof. Sunaina Singh
Vice Chancellor,
Nalanda University

Institutional Development Plan (IDPs) is the backbone of the reform process that our New Education Policy envisages for the education sector. IDPs will not only outline the goals, progress and outcomes that an educational institution will carry out but even the future public funding for them would be dependent on how well are they delivering in line with their IDPs. In principle, this process looks very promising but most of the institutes have not had first hand experience of making such plan documents. Honourable Speaker not only spoke about what all important aspects an IDP should contain but also talked from a leader's perspective that what kind of administrators are required to transform our ailing universities and colleges.

Madam speaker started by talking about the rich Indian history & heritage. She herself is working tirelessly to transform Nalanda University into a world class future institution and reclaim

that glory of the past. She advised that our leaders should have a roadmap and a vision to fulfill it. Our academic leaders must have credible honesty and integrity. Appointing authorities must choose our leaders carefully by going through their work history and track record. The success of IDPs depends a lot on effective leaders. Accreditation process of universities must be in tune with global standards and demands of contemporary times. It must take into account what research direction institutes are moving towards and what is their contributions about the same. IDPs should also look to make our universities more compassionate so that the graduates have strong emotional capability as well. Universities should come with courses viz. physics with some vocation, and also give equal importance to subjects like music, singing arts, literature, painting etc. The grants given to a university should be based on what benchmark quality the institute is setting up, what is the progress in terms of overall IDP and on annual performance in various parameters. Madam speaker gave ample emphasis to our education becoming more and more multi disciplinary and coming out of the current silo like structure. Prof Sunaina opined that any reform comes up with its own set of challenges. An able administrator shall have the perspective of finding opportunities in challenges. An administrator must work with problem solving approach while making and executing IDPs. Institutes first can start with reforms in research aspects and courses. These two reforms are needed with utmost urgency. Institute leaders should involve faculties & all other concerned stakeholders, discuss with them and do a SWOT analysis of their institutes. On being quipped about the autonomy aspect, she answered that motivated, visionary and selfless leaders are the need of the hour and autonomy aspect will only be beneficial if we have such administrators. She called on for the implementation of IDPs as a continuous holistic process with annual impact analysis & self assessment mechanisms and not something to be done only as a showpiece exercise when NAAC committee comes for inspection or accreditation. She advised to come out of the decolonisation hang over that excellence lies in west. We should not import and use copied content. Out ethos in itself are connected with wisdom. Upanishads are the finest example of that as they are in the form of dialogue between a teacher and a student out of which new wisdom sprouts. At the same time, she also called on to learn the best practices from the western world for example professional ethics, research output etc and to apply it as per our own local requirements. Honourable VC concluded by pointing that every institution must be a future institution envisaging the future research and industry needs and imparting knowledge accordingly. The faculties need to update their knowledge and the administrators have to be honest, bold enough to take necessary decisions and with a zero compromise attitude.

Optimal Learning Environments and Support for Students

- **Webinar Date & Time :**
  December 10, 2020 | 11 AM onwards
- **Speaker :**
  Prof. Pankaj Arora, Director, Institute of Lifelong Learning, University of Delhi
- **Moderated by :**
  Sudhakar Upadhyay

Prof. Pankaj Arora
Director, Institute of Lifelong Learning, University of Delhi

Dr. Pankaj Arora Sir started by stating that when a student comes to the university, the curriculum is designed as such that only mental aspect of his/her development is taken care of ignoring the much significant emotional, physical and social aspect. There is a need of converting the lecture rooms into discussion rooms. We need to make Four Year Undergraduate Programme (FYUP) curriculum more holistic, multidisciplinary and competent in nature. Life skills like communication, personality development, decision making and confidence in young students are necessary in today's world. Legal awareness and constitutional studies should be included in undergraduate programs along with happiness curriculum. Democratic environment in the college curriculums should include participation of students in development

of learning process. Self employment models including entrepreneurship programs should be developed with technological upgradation of college libraries. Basic commercial mathematics, stock market and economics knowledge related to day to day life scenario should be included in FYUP curriculum. A college should be of vibrant nature which transforms a young child into a responsible independent adult in personal, professional and civic life. Gross Enrolment Ratio can be expanded by allowing the open distance universities network to provide skill based short term courses. We should have roots in INDIAN ethos but at the same time we should have scientific temperament matching the international standards. A sense of belongingness and ownership should prevail in hearts of students then only a friendly democratic healthy environment of learning can be created.

Redefining of school education by increasing the foundation course time to 5 years is an appreciable step towards competency based learning in NEP. The new education policy draft suggests that all the PhD scholars while undergoing their study have to take 8 credit score pedagogy of that particular subject, this will revolutionise the university level teaching. Emotional stability is something which our new generation is missing nowadays. Proper training of dealing with pressure will actually improve mental health and emotional quotient of the students. The provision of counseling in every institution through proper teacher training will have long term positive impact on student's future. Lifelong learning institutions provide all adults an opportunity to always be updated with latest innovations in every field. The availability and accessibility of the college professors to the students is necessary that will actually create a long lasting impact on student's life.

Global Outreach of Higher Education

- **Webinar Date & Time :**
  December 4, 2020 | 3 PM onwards
- **Speaker :**
  Dr. Vinay Sahasrabuddhe, President, ICCR and Hon'ble Member of Parliament, Rajya Sabha
- **Moderated by :**
  Dr. Chetan Singai, Associate Professor, Ramaiah University of Applied Sciences

Dr. Vinay Sahasrabuddhe
President, ICCR and Hon'ble Member of Parliament, Rajya Sabha

Dr. Vinay Sahasrabudhe ji in his opening remarks appreciated the outstanding work being done by Vidya Bharathi Uccha Shiksha Sansthan for initiating series of lectures through MyNEP to educate people about NEP 2020. He said that the success of a policy is defined by how it is accepted and adapted by the people, only then it can be said that a policy is for the people, by the people and of the people. Expressing his thoughts about globalisation of education, he said that two aspects gain prominence, *"Vishwa ko Bharat mein aana aur Bharat ko Vishwa mein Jaana"*. NEP has laid emphasis on the establishment of foreign universities in India and it is time for all of us to think about our Indian knowledge system being spread across the world.

Talking about the history of Indian knowledge system, he opined that India doesn't have the history of aggressionor invasion. Our country was always known for its treasure of knowledge and universities such as Nalanda, Takshashila, Vikramshila etc which attracted scholars like Al-biruni, Hiuen-tsiang and many others from outside Bharat. Till today, we talk about those scholars and are ignoring the fact that our own home-grown talent is getting diverted into foreign universities and companies and at the same time we are not able to concentrate on people from abroad coming to India.

He concentrated on two aspects for global external outreach of Indian knowledge system :

1. How to attract foreign talent and students?
2. How to export our knowledge system and establish our universities abroad?

Speaking about the apprehensions that some people have about foreign universities getting setting up campuses in India, he told to look into it with different perspective. When these universities come to India, they will have to somehow internalise our system and accommodate to the needs of country. Taking example from the epics where Rama and Krishna go to the ashrams of Guru Vashishth and Sandipani respectively to gain knowledge, Vinay ji said that though they had their palaces to learn still they chose to go to the places of their mentors. Such is the essence of Indian education philosophy where learning and teaching happens through illustrations. Learning from gurus happened by observing the way they conducted themselves in public and family life as well. Thus, our Indian knowledge system is based on teacher-pupil relationship.

Dr. Vinay said that the Indian government will frame rules and regulations for foreign universities to operate here and it will be a win-win situation for both sides involved. Giving example about the software system that was used in Nehru memorial library and museum, and planetarium in Delhi that was purchased from a company abroad, he expressed his concern about the inability of Indian companies to manufacture such softwares and the inevitable condition to depend on foreign companies. Therefore, establishing universities with diverse expertise of knowledge creation will be beneficial to us. Technology transformation will happen through this. Many diverse courses will also be introduced such as oceanography, geologyand other fundamental management sciences as well. Keeping all this in mind, it is very essential to

allow foreign universities in India and make them realise the essence of our Indian knowledge philosophy.

Further on attracting foreign students to India, Vinay ji stressed on the fact that India stands at 3rd position in sending students abroad for higher education. When it comes to welcoming foreign students, we stand at the 27th position. If India wants to become a 'VIshwaguru',it is important to welcome more foreign students to India. He also welcomed the grandeur plan of making India a global hub of higher education as mentioned in the 2019 budget. He mentioned about one of its kind of a conference: **"Destination India Conference"** conducted by ICCR in Pune which involved multiple players and departments from all sectors.

Dr. Vinayji also talked about China surpassing India with inducting more than 5 lakh students every year whereas India stands only at 50,000 an year. Many foreign students are also informally involved in learning Rigveda, Bharatanatyam and many other such Indian classics. Both registered and unregistered students sum up to 1-1.5 lakhs. In this backdrop, India should try to attract more foreign students.

Dr. Vinayji suggested some recommendations to attract more foreign students into India:

- Define who is a foreign student?
- Define Courses and different kind of formal and informal learning
- A Conference of learners who come to India
- A regulatory body by Indian council for higher education
- Scholarships on the basis of merit, entrance examinations, transparent admission system that would lead to a prestige tag for Indian universities
- Recommend Institutions to Foreign students through counsellors and mechanism to solve language problem
- Association of alumni of India institutions. A large number of students from Nepal and Bangladesh have returned to their countries. We need to create a database of these students.
- Language proficiency test should be conducted mainly focusing on English.

- Provide foreign students with a foster family and friends.
- Create awareness about Indian culture. ICCR is planning for an "Understanding India Programme"
- A special curriculum that includes culture course or diploma for foreign students.

Expressing his concern about the absence of structured courses to learn Bhagavadgita, Vedas etc, he gave example of his visit to Tehran for a seminar where he was questioned about the teaching of Upanishads in Indian universities and his subsequent inability to answer the question because there is no structured program for teaching our ancient scriptures in India. Therefore, it is essential to establish such courses.

He also suggested to start structured courses related to Archaeological and monumental sciences in our universities to attract foreign students as many South East Asian countries rely upon Archaeological Survey of India for the preservation of monuments and archaeological materials. Dr. Vinay spoke that there is no problem in establishing foreign universities in India but it is very important to send more faculties from India to abroad. They should not only be indulged in teaching subjects but also in disseminating Indian tradition. It is important to have India centric knowledge in universities across the world.

Promotion of Indian Languages, Arts and Culture

- **Webinar Date & Time :**
  December 5, 2020 | 11 AM onwards
- **Speaker :**
  Padma Shri C. Krishna Shastry, Trustee, Sanskrit Promotion Foundation
- **Moderated by :**
  Shri Vinod Master, Member, National Monitoring Committee for Education, Ministry of Education, Government of India

Padma Shri
C. Krishna Shastry
Trustee, Sanskrit Promotion Foundation

Language is a powerful tool. Post-Independence, a number of languages are on the verge of extinction. Since Language is crucial for preserving heritage and culture of a society, several communities lie at the risk of losing their identity. In order to retain the cultural heritage of the diverse Indian communities, it is important to introduce courses on Indian Languages in the Higher Education System. NEP 2020 is set apart from the conventional education policies in the sense that it aims at effective deployment of policies in the educational institutions. It involves prestigious NGOs and the organizations at the grass root level that are willing to participate in implementation of NEP 2020.

Students should be offered options to learn different languages based on their interests.

Literary enticements should be offered in order to inculcate interests in the regional languages of India. There are seven areas where usage of a language can play a key impact on the culture of a society : Communication in daily life, Entertainment and Media, Contemporary Literature, Updating vocabulary with the help of Sanskrit, Adaptation of Technology, Emotional Connect and Patronage. Implementation of goals of NEP in the above seven areas should be followed up by Bottom-up approach. Through promoting multi-linguistic and holistic approach in the educational system, we will be able to inculcate the feeling of unity, humility and harmony in diversity as well. Instead of aiming at simply learning a language, students and teachers should intend to embrace the diverse culture and the tradition that the language brings along.

Celebration of 'Bharatiya Bhasha Utsav' can be organised, in the memory of Tamil Poet, Subramania Bharati, on the eleventh day of December. On this day, in order to celebrate the rich diversity of Indian heritage, universities and schools can organize various events and cultural shows as an ode to the great poet. Online and Offline courses should be developed with the help of eminent literary personalities, academia and language laboratories. Option of minoring in Indian languages along with different degree programs should be offered in Indian Universities. Similar goals can be achieved by offering credit-based transfer systems, and online classes on language education.

Teacher Education and Training

- **Webinar Date & Time :**
  December 12, 2020 | 11 AM onwards
- **Speaker :**
  Shri Chand Kiran Saluja, Academic Director, Sanskrit Promotion Foundation
- **Moderated by :**
  Dr. Madhusudan J V, Associate Professor, University of Hyderabad

Shri Chand Kiran Saluja
Academic Director, Sanskrit Promotion Foundation

Role of a teacher for the growth of student's career is vital and that has been recognised in NEP 2020. The policy states that students can study in their mother tongue and this is the independence that we required. NEP2020 emphasises Learning to know, learning to do, learning to live together and learning to be a better version of a Human being. The educator should be at the focal point of the crucial changes in the training framework. The new schooling strategy should help restore educators, at all levels, as the most regarded and fundamental individuals from our general public, since they genuinely shape up our coming age of residents. It should do everything to enable educators and assist them with managing their work as viably as could be expected under the circumstances.

The language is given great importance

and indeed this will increase respect and dignity of the teachers as students at an early age can connect with the students if the teachers start talking in their mother tongue. Teacher education and the early grade curriculum will emphasise foundational literacy and numeracy. Teacher's training will incorporate strategies for the acknowledgment and cultivating of such student talents and interests. The teachers should accept the students and recognise, identify, and foster the unique capabilities of each student, by sensitising the parents to promote each student's holistic development in both academic and non-academic spheres. 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. Topic-centered and Project-based Clubs & Circles should be encouraged and supported at the levels of schools, school complexes, districts and beyond.

Teachers genuinely shape the fate of our kids - and, in this way, the eventual fate of our country. It is on account of this noblest job that the instructor in India was the most regarded citizen. As it were, the absolute best and most scholarly became educators. Teachers must be given consistent chances for personal development and to become familiar with the most recent developments and advances in their callings. NEP 2020 recognises 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 will move towards becoming multidisciplinary, they will also aim to understand B.Ed., M.Ed., and Ph.D. degrees in education.

NEP 2020 aims to introduce 4 year comprehensive B.Ed course. 2 year B.Ed courses can be phased out by 2030 thus providing ample time and window for this change to be brought out smoothly. NEP 2020 also states about teachers freedom. The whole process of the Teacher's education is developed of student-teacher understanding and this will give freedom to the Indian Teachers. According to UGC, 30% of the curriculum will be prepared by the particular schools and colleges giving academic liberty to teachers.

Technology Enabled Learning

- **Webinar Date & Time :**
  December 9, 2020 | 11 AM onwards
- **Speaker :**
  Prof. I. K. Bhat, Vice Chancellor,
  Manav Rachna University
- **Moderated by :**
  Prof. Manjushree Sardeshpande,
  Head of English Department,
  R. S. Mundle Dharampeth Arts & Commerce College,
  Nagpur

Prof. I. K. Bhat
Vice Chancellor,
Manav Rachna University

The new National Education Policy, among other things, places a key rolein the integration of education and technology. Over the last decade, India has transformed itself into an information-intensive country and there is a growing requirement to enhance the use of technology in the field of education. The policy notes that one of the guiding principles steering the education system will be the use of technology in teaching methods, learning, planning and management processes adopted going forward.

The government will also place greater emphasis on making technology more accessible to the disadvantaged sections of society in a bid to boost inclusion in the education sector. The pandemic has already forced institutions and students to rapidly adapt to the use of technology and a completely new form of teaching and

learning. The introduction of the policy at such a critical juncture can ensure the establishment of greater structure and balance in technology enabled teaching methods and support more effective learning for future generations. Dr. Bhat says that as technology has taken over every aspect of our lives, it is simply impossible to avoid the use of technology in education.

According to an IBM report from 2016, 133 million new roles will emerge and 75% existing roles will be obsolete by 2022. Preparing for this scenario requires a serious rethink of our current education system and identify the things that need to change immediately. Key among the skills that need to be focused on as we move forward are learning and innovation skills - including critical thinking, problem-solving, communication, collaboration, creativity, and innovation. Digital literacy skills will also be essential for students in the new decade - including information literacy, media literacy, information and communication technologies (ICT) literacy.

Career and life skills will assume greater significance as automation begins to overtake the more traditional jobs today - including flexibility, adaptability, initiative and self-direction, social and cross-cultural interaction, productivity, accountability, and leadership. One of the key challenges today would be in bringing the knowledge needed, when it is needed and to where it is needed by the best authorities. There is an urgent need to bring education 4.0 in alignment with industry 4.0 and prepare students for the next industrial revolution which will happen in their lifetime.

A key objective of education 4.0 is to build a fair and self-sustaining model for education rather than one based purely on knowledge. Any new system will also have to be conscious of the minimum capability in terms of access to technology on a larger scale as a base for delivery of learning material. Teacher training will pose a major challenge where implementation is concerned in the short term, with teachers feeling the presence of barriers such as the lack of time, access, resources, expertise and support. Another key challenge will be the distribution of gadgets and internet to even the remotest corners of the country, which is not yet up to the ideal that would support the system in mind.

Dr. Bhat proceeded to outline what Education 4.0 could look like and what the government needs to do in order to ensure effective implementation. Technology has made formal education more accessible without having to pursue a degree, allowing individuals access to independent modules of their choice from any institution. A new vision of technology would see students pick up only the subjects and information they would need in their field of work, in an environment built around their unique choices and capabilities. Peer to peer

learning can be pushed to new heights with the help of technology, with teachers switching more to the role of facilitators. Assessment methods will also be re-imagined through the application of Artificial Intelligence, digital experiential learning, and micro-credentials replacing the high stakes of summative tests.

Education 4.0, in line with industry 4.0, would entail personalised learning from anywhere and at any time, with a flexible form of delivery and a greater role for peers and mentors. Practical application will receive greater merit, the learning will be modular with more projects and greater student ownership and the students would be evaluated on a regular basis rather than examined. Education 4.0 will be driven by a millennial mindset, future skills including soft skills and creativity, platforms of collaboration, investment in talent, social progress, personal data, digital networks & devices and shared content and resources. A blended mode of e-learning would see greater emphasis on interactive digital content and on-demand learning without completely eliminating the traditional chalk-and-board classrooms. Education will be more asynchronous, with greater access to recorded and published learning materials.

Dr. Bhat acknowledged that the entire system cannot be overhauled at once and suggests undertaking the transformation in phases, starting with development of policy and SOPs. This can be followed by teacher training, technology delivery & integration, development of content, experimentation and establishment of best practices. Some of the immediate changes that can easily be adapted include podcasts, virtual tours, online scheduling of classes, teaching videos, gamification, e-content creation and developing new technologies for education. Dr. Bhat suggests that government needs to take initiative at the right time to ensure effective delivery of technological support where required in order to create a level playing field for people in every part of the country.

Transformation from Affiliated to Autonomous Colleges

Ganesh Vaidyanathan S
Principal, Sri Venkateswara College of Engineering

Dr. Hrishikesh Soman,
Principal, Symbiosis College of Arts & Commerce

- **Webinar Date & Time:** December 9, 2020 | 3 PM onwards
- **Speakers :**
  Ganesh Vaidyanathan S
  Principal, Sri Venkateswara College of Engineering
  Dr. Hrishikesh Soman, Principal, Symbiosis College of Arts & Commerce
- **Moderated by : Prof. Ashish Puranik,** Vice Principal, BMCC Pune.

The Transition towards Autonomous colleges should be gradual. The autonomy passed to the universities would be in a graded manner. In doing so, the transition would not be abrupt.Both Academic and Administrative Autonomy is important. A fifteen years timeline given to the universities would help them to improvise on the pre-existing structures. This will lead to better institutional structures. The new academic structures would be innovative. While discontinuing the Affiliation System, three emergences are likely: Research Universities, Teaching Universities and Autonomous Degree Granting Colleges. Based on the academic pattern in the colleges, the colleges can convert into the three possible scenarios at their convenience.

The transition should be based on the idea of approximation at ease and stability. This can be

done by promoting:Open and distance Learning, Encouraging use of technology and Allowing public funding to Higher Educational Institutions. The Universities shall have the opportunity to progress based on the idea above. The autonomy can be transferred based on three notions.

The colleges can transit from Degree awarding to Teaching Intensive Universities. Based on the requirement, they can further change into Research Intensive Universities as well. The education imparted in the colleges should promote an all-round development. This can be done by clubbing professional and vocational mode of education with conventional mode. Instead of focusing on STEM, the premier institutions should promote STEAM, where 'A' refers to an intensive options and curriculum in Arts and Humanities. Education today has to be inter-disciplinary, multi-disciplinary and trans-disciplinary.

Governance and Regulation in Higher Education

- **Webinar Date & Time :**
  December 11, 2020 | 3 PM onwards
- **Speaker :**
  Prof. Sandeep Shastri, Vice Chancellor,
  Jagran Lakecity University
- **Moderated by :**
  Dr. Ashish Puranik, Vice Principal, BMCC Pune

Prof. Sandeep Shastri
Vice Chancellor,
Jagran Lakecity University

As far as the National Education Policy is concerned, it is essential for the directors, vice chancellors and other administrators to study in detail the newly laid out implementation guidelines. This will help institutions gain a stronger foothold over the slew of changes that need to be made as they adapt to the new structure defined under the new policy.

Prof. Shastri began by laying out the importance of governance and regulation in effective implementation of the new National Education Policy. He noted that the objective of the policy as laid out by the Prime Minister was to keep its current and next generations future-ready with every student getting an opportunity to follow their passion. He quoted the great Chanakya who had suggested about framing any new policy, "reflect on the past, respond to the

present, and reform for the future. He said that the evolving education system should focus on helping students move from identifying what to think and instead understand how to think.

He believes that this National Education Policy has 'Navasutras' i.e., it is inclusive, equitable, quality-focused, sensitive, inter-disciplinary, synergistic, rooted, flexible and supportive of life-long learning. When one looks at the word governance alone, it can feel slightly undemocratic as it suggests the control of one person over another. Governance can be more appropriate when approached with a more humane and empathetic outlook that doesn't seek to restrict or control the individual. Governance in higher education has been mentioned including reforms in the regulatory architecture.

Prof. Shastri then proceeds to lay out how governance and regulation must be treated under the new policy and what the various stakeholders need to do in order to follow effective implementation as laid out in the policy. It is important to understand whether governance is being viewed with a top-down approach in mind or a bottom-up approach. It is essential to view the matter of governance from certain lenses namely one that looks at governance as a form of access and one that looks at governance as a means of participation. Often in policy paradigm governance becomes the goal rather than the means to a goal. The results of governance need to be constantly evaluated in order to assess the level of governance needed moving forward.

While talking about the philosophy of regulation for institutions, NEP 2020 speaks that regulations need to be 'light but tight'. Having said that, it is important to pay attention to the details that where regulations need to be light and where they need to be tight in order to create efficient regulatory mechanism. As implementation gets underway, the government needs to take a hard look at which are the factors or results that would be considered negotiable and the ones which would be considered non-negotiable, and subsequently adjust the lightness and tightness of regulations in these areas accordingly. There is an inevitable danger that the focus shifts more towards rules and not on results. This creates an imbalance which becomes harder to correct after the rules have been in place for a sufficient time.

As NEP 2020 looks to make our education system more multidisciplinary at every level, our regulations need to move away from treating disciplines with hard boundaries and allow for a broader view that looks at different concepts that matter to the coming generation of students with a greater intermingling of individual subjects within these broad concepts. Institutions can be classified on the basis of their overarching goals as institutions, under a three-fold system that

includes research-intensive, teaching-intensive, and autonomous colleges. Care must be taken that while such classification takes place, it doesn't again create a hierarchy in terms of importance.

The new policy looks at reform in regulation and governance systems supported by 4 key pillars - the procedures and processes at multiple levels, attitudes and approaches with different stakeholders, inclusiveness, and timelines in the short, medium and long term. With respect to procedures and processes, it would be ideal for the government to apply more rigidity to ensure greater uniformity in implementation across the country. At the same time, attitudes and approaches won't change the minute a new law or policy is brought into place. But for the policy to succeed, there needs to be large-scale disruption of existing mindsets in order to bring about the significant changes laid out in the policy.

NEP 2020 recognises the incredible diversity of the country's population in every aspect. It is essential that the regulations framed by institutions support this inclusiveness through policies that allow for flexibility where necessary while ensuring uniformity on the broader level. For NEP to be implemented most effectively, the status quo being perpetuated by the existing institutions need to be replaced. The new Higher Education Council of India is capable of regulating more effectively in light of the new policy in comparison to how AICTE and UGC might have worked in this regard. Given the diversity of stakeholders in the landscape of education and their differences in outlooks, it is very likely that some of the policy regulations will be restricted to government institutions mostly. The government needs to work closely with other stakeholders to incentivise and encourage them to adopt as many aspects of the policy as possible to ensure uniformity in education as much as possible across the country.

Open and Distance Learning

- **Webinar Date & Time :**
  December 12, 2020 | 3 PM onwards
- **Speaker :**
  Prof. Nageshwar Rao, Vice Chancellor, IGNOU
- **Moderated by :**
  Prof. K. B. Dash, Pro VC, IGNOU

Prof. Nageshwar Rao
Vice Chancellor, IGNOU

There has been a lot of progress and change in the field of education in India. We have witnessed the days of great achievements in the field of distance education and online education. The Indian education sector has been able to turn the COVID crisis into an opportunity through online and distance education. Distance education plays a vital role in providing students with a wide range of international, low cost and high quality courses making significant contributions towards Indian education.

The basis of distance education depends on four things. They are Accessibility, Equity, Quality and Affordability. Cost effective courses are provided in India to promote Distance and online Education. So, it is easy to reach more students. Online education can further contribute to the implementation of multi-disciplinary education.

Vocational education like MCA and Tourism are also being imparted through distance education today. Government of India had already formulated plans for the promotion of online education before COVID crisis. During the COVID period, we were able to understand and realise the potential of online education and distance education in India.

SWAYAM courses are being implemented very successfully in India today. More than 3,000 courses are offered today through the SWAYAM Platform, including social science, science and technology disciplines. We have popularised distance education through media like Gyan Darshan, Swayam Prabha and Gyan Vani. Efforts are being made to make distance education more accessible by making the credit transfer system more transparent and eliminating registration fees. Education revolution in the rural areas is taking place in India through such initiatives. Today, SWAYAM courses have been translated into 8 Indian languages, enabling the expansion of the course throughout India. In addition to the Expert Committee, the Monitoring Committee also works efficiently to ensure the quality of the materials provided to the students. Effective progress has been made in the field of distance education by providing clear information about the courses to the students through counseling, providing high quality study materials and conducting the examinations in a smooth manner. Distance Education is even able to provide vocational education courses like agriculture, hotel management etc which need practical examinations. The cost of the courses can be significantly reduced by providing such facilities in areas adjacent to areas where practical and internship facilities are required, such as agriculture-based courses and hotel management courses.

Academic credit bank is one of the best schemes in Distance Education. It is useful not only in Distance Education but also in other fields of education in India. Dual mode colleges that promote distance education are better than traditional campuses. This will enable more people to be educated at low cost and make maximum use of existing facilities including infrastructure. Staff training colleges affiliated to IGNOU provide quality training to faculties. So far, more than two crore students have registered for various courses through the SWAYAM portal. The use of National Digital library services by students in distance education has also increased. There are 84 centers outside India to promote Distance Education.

Credit Based System & Academic Bank of Credit

- **Webinar Date & Time :**
  December 16, 2020 | 3 PM onwards
- **Speaker :**
  Prof Raghvendra Tiwari, Vice Chancellor,
  Central University of Punjab
- **Moderated by :**
  Dr. Madhusudan JV, Associate Professor,
  University of Hyderabad

Prof Raghvendra Tiwari
Vice Chancellor,
Central University of Punjab

Credit bank system going to be introduced through NEP - 2020 is one of the more transformatory reforms. Students can now do courses in both offline and online modes that too with the institution or platform of their choice and claim a certain percentage of credits for the same to be applicable in their respective degrees. This system though very promising will need a lot of structural reforms before being implemented on a nation-wide scale. Apart form the digital infrastructure needs and subsequent privacy challenges to be addressed; the quality of education being imparted in various universities has a vast disparity among them.

Sir Vice Chancellor started by saying that leave alone changing the Macauley system of education which was implemented by the britishers, we have not even been able to modify & update it

according to our country's time tested wisdom & evolving needs. Choice Based Credit System was introduced to promote inter-disciplinary learning among students. The success of the same is debated with students often bypassing the intended objective by taking courses from their own or related departments. Prof Tiwari emphasised that now not only do we need inter-disciplinary & multi-disciplinary education but today what is needed is trans-disciplinary education, i.e., across the disciplines. He said that first institutes need to hire professors with diverse educational and experiential backgrounds then only trans-disciplinary education can be promoted & nurtured. UGC eligibility conditions for assistant professorship talks about having masters in concerned, allied & relevant subjects. Sir talked about understanding the meaning of allied & relevant and promoting such applicants as well for such posts. He also talked about promoting flipped learning, personalised learning & experiential learning to solve the problem of rote learning & last minute memorisation. He suggested to have assessments based more on practical aspects rather than theoretical aspects. Evaluation should be based on projects, debates & discussions. Student suggestions must also be taken before deciding assessment procedure. Most of the Massive Open Online Courses (MOOCs) from India's top public universities are available on multiple online education platforms at highly affordable fees so that can be accessible to all. Being a welfare state, government should provide world class digital infrastructure with high internet speeds so that students across every nook & corner of this country get equitable quality education. Online mode will also be helpful in reducing the extra load that teachers have because of high student-teacher ratio. It will also enable sharing of resources and bridging the gap between different universities. He called for the teachers, parents & students alike to come out of the comfort zone and re orient themselves. He hailed NEP - 2020 and told that nobody has any doubts over the structural reforms & provisions embodied but the doubt & challenge is only regarding the implementation. Honourable speaker ended with his wise words that the implementation is not easy but not impossible as well. The success of NEP will not only prepare an excellent Human Resource pool for the country but also boost the economy towards the five trillion goals.

Impact of National Education Policy on Medical Education

- **Webinar Date & Time :**
  December 17, 2020 | 5:30 PM onwards
- **Speakers :**
  Dr. B.N. Gangadhar,
  Former Director, NIMHANS Bengaluru
  Dr. B.S. Prasad,
  Principal, BMK Ayurveda Mahavidyalaya Belagavi
  Dr. Suresh Badmath,
  Prof of Psychiatry, NIMHANS Bengaluru
- **Chairperson :**
  Dr. Subbiah Shanmugam, Head of Department, Dept. of Surgical Oncology, Govt. Royapettah Hospital and Kilpauk Medical College
- **Moderated by :**
  Dr. Kishore, Assistant Professor of Ayurveda, NIMHANS

We are now witnessing the rise of the third national education policy in India. While the national education policy leaves medical and legal education out of its purview, the same were a part of it in the draft national education policy. The government has a view of taking it up in the near future, while maintaining their focus on primary and secondary education for the time being. The speakers began by laying out the various challenges that stand in the way of development in medical education today.

Dr. B.N. Gangadhar
Former Director,
NIMHANS Bengaluru

Dr. B.S. Prasad
Principal, BMK Ayurveda
Mahavidyalaya Belagavi

Dr. Suresh Badmath
Prof of Psychiatry,
NIMHANS Bengaluru

Dr. Suresh Badmath began by noting that the study of medicine, be it allopathy or Ayurveda, can be looked at as having three phases - pre-clinical, para-clinical, and clinical. It takes a significant amount of time to prepare a doctor and also requires a significant amount of knowledge intake. The current syllabus was all-encompassing without discrimination due to the relatively limited access to digitally enabled learning material, such as e-books, webinars, conferences, digital libraries and so forth. While medical technology has been developing at a rapid pace, the mind-sets in medical education continue to stagnate. Students today are exposed to far too many subjects, some of which may be redundant in early medical education, while there is fairly limited exposure to practical application.

With the current landscape dominated by foreign books and a largely knowledge-based syllabus, Indian medical students are not in touch with the ground reality of the country's public health situation and thereby not fully equipped to support the system. The doctors who emerge from this system today, face a customer base that is right and knowledge-based, Google-oriented, prone to violence in some cases, and come with high expectations from their doctors. Additionally, the ratio of doctor to patients in India is still well below the recommended 1:1000.

The profession also faces the significant challenge of intra-disciplinary, inter-disciplinary, and trans-disciplinary fights between professionals in the field. This friction ultimately comes in the way of delivering effective medical care to the public. As far as the NEP is concerned, medical and legal education may have been left out of its purview, but the policy recommends that they must attempt to take the policy in their stride and synchronise with the outlook of the policy. On the field, it has been observed that even students who have completed three years of MBBS, and working as AMOs are doing better than some of those who have completed their full 5 and a half years of medical education. Electricity and connectivity are still issues that PHCs and CHCs face along with the lack of human resources where tele-medicine is concerned.

Dr. B.S. Prasad noted that where AYUSH paramedical courses are concerned, there is a shortage of skilled human resources beyond Ayurvedic vaidyas, which is taking a toll on their performance and outcome. There is an urgent need for supporting courses in related fields including nursing, Panchakarma, pharmaceuticals, lab technicians, horticulture, medical marketing and hospital management etc. Dr. B.N. Gangadhar feels there is a need for both skills and knowledge to get equal attention, while doctors need to build more compassion and resilience. The system needs to adapt to match the needs of the human resource, in keeping with the standard of medical education in other countries,

while retaining pride in the Indian concept of health.

Dr. Subbiah Shanmugam noted that the recent pandemic exposed the shortcomings of allopathic medicine in providing preventative measure against new diseases or infections and there is a need to explore integration of medical treatment systems for a more holistic and comprehensive approach to healthcare. If Ayurveda is considered outdated today, a major factor that needs to be looked at is the gap in progress that occurred over centuries of foreign rule, influence, and colonisation. Ayurveda has plenty of potential to improve in standards, but it needs consistent and dedicated research over time.

The speakers also dwelt upon the National Education Policy and how it could support the improvement of medical education in light of the various challenges that exist on the ground today. Dr. Suresh Badmath pointed out that the NEP recommends a single body, the Higher Education Commission of India, to oversee a unified regulation, funding, and accreditation standard for all professional councils in India. The NEP also recommends the establishment of a National Education Technology Forum to guide the development of online education in the country. The National Medical College Network was started a year back with a similar goal in mind for medical education but the network currently includes the bigger colleges in the country and needs to become more inclusive for a more widespread impact. Medical education needs more rigid criteria for teacher requirements and students need to be exposed a lot more to training in real world environments including PHCs and CHCs or District Hospitals. The government is focused on providing optical fiber network to all PHCs and CHCs within the next few years to enable effective communication and telemedicine. Ultimately, doctors need to have a broad knowledge of all subjects along with the relevant specialisation and the subjects that surround these specialisations in areas other than medicine

In order to deliver the most effective care and support to their patients under any circumstances.

Dr. Prasad highlighted the NEP's view on medical education, which suggests a flexible duration, structure and design of courses, ability for primary and secondary care, preventative healthcare and community medicine, pluralistic choices in healthcare and integrative healthcare education. With these aspects in mind, India plans to approach a "One nation - One healthcare system" through integrated institutions and infrastructure, common curriculum and teaching content, integration with other medical sciences and allied subjects, teaching, training and assessment through technology and methodology and standardised clinical practice. In keeping with the NEP, medical colleges would be more

effective with a multidisciplinary approach that offers holistic education through integrated infrastructure - diagnostic, lifesaving, surgery, emergency etc. Medical colleges can offer allied courses including medical technology, basic sciences, economy, marketing, tourism and veterinary sciences among others.

Virtual and clinical skill labs alongside other digital infrastructure will better equip students for the next phase in modern medicine. The courses can be fragmented with specified competencies at every level. The system would allow a carry forward of credits to support continuous education with multiple migration options and flexibility in duration. The curriculum would be outcome-based while a continuous evaluation would be more effective in gauging student capabilities at every step. Essential subjects, skills and capabilities will be integrated for ease in teaching and learning. There would be greater autonomy to innovate with a more holistic and multidisciplinary approach to education.

A proposed multi-level certification program would include competencies from a certification in diet and lifestyle to a diploma in medical entrepreneurship or a graduation in clinical proficiency. The initial 1.5 to 2 years of education can be made common for all medical streams, covering concepts of wellness, lifestyle modifications, public health, and preventative aspects. Moving forward, all medical institutions need to adopt continuous assessment with specific parameters, incorporation of advanced teaching methodologies including blended learning, ICT introduction, experiential learning and open & distance models. Colleges must ensure the establishment of various cells including those for curriculum design and development, teaching content development, teaching technology, feedback / evaluation / assessment technology development.

The ground reality is that more than 90% Ayurveda graduates practice allopathy, so there is already a fair integration of medical sciences on the ground.NEP 2020 suggests that "given that people exercise pluralistic choices in healthcare, our healthcare education must be integrative, meaning thereby that - all students of allopathic medical education must have a basic understanding of Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homeopathy, and vice versa". The integration of medical sciences in practice, must adopt a cafeteria approach, with all systems being made available under one roof and patients able to select a particular system as per their choice. A complementary approach can be adopted in treatment, where a thorough understanding of the strengths of each system allow them to complement each other through effective integrative protocol.

In clinical practice, primary care needs to offer patients the possible options of all medical streams, while secondary care needs to adopt a cafeteria approach

and tertiary care is most effective with a complementary approach in place for the patients. Implementation of "One Nation - One Health Care System" will require a greater understanding of all systems, dedicated centres for the development of integrative protocols, the introduction of established protocols in teaching and implementation in practice, colocation of all systems under one roof, common facilities to all systems and specified systems recommended for each stage of clinical condition for the sake of standardisation.

Dr. B.N. Gangadhar agreed with the view to create an overarching body to oversee medical education in the country along with the integration of classes and courses based on need. He stressed on the importance of fortified classes on digital platforms to suit professions with a view to democratising education and training. Doctors need to work on presenting an illness to wellness movement to all patients and integrate health change in the long run. It is essential to let skill precede knowledge in terms of acquisition. Skills need to be clearly defined for each profession along with their requisite level. Skill-building for medical education could even start from the pre-university level. Individuals should have greater autonomy in education, but effective guidance and support must be provided by institutions. There needs to be a greater emphasis also, on in-service education. Medical students need to be trained in communication skills from early on in their medical education as it has the potential to transform any individual from being a mere medical graduate into a truly effective doctor.

There needs to be increased oversight on the HR needs of doctors, from differentiating between a real and apparent shortage of doctors to ensuring uniform career growth and defining standards of growth and quality care based on ground realities. Ultimately, any medical system in the country needs to retain a rootedness and pride in India and its rich and diverse culture, knowledge systems and traditions. Dr. Subbiah Shanmugam believes an integrated approach has the potential to aid research and development of medicine in the modern age, where each field of medicine can complement the gaps of the others and lead to an enhanced system that benefits patients in the long run. A common curriculum for the first two years of any medical stream can, thus, help create a common ground for further education and potentially provide patients with a fair standard of medical treatment, regardless of the system of medicine applied.

Reimagining Vocational Education

Dr. Manish Kumar
MD & CEO, National Skill Development Corporation

Dr. Heramb
Director, Council for Creative Education, Finland

- **Webinar Date & Time :**
  December 15, 2020 | 3 PM onwards
- **Speakers :**
  Dr. Manish Kumar, MD & CEO, National Skill Development Corporation
  Dr. Heramb, Director, Council for Creative Education, Finland
- **Moderated by :**
  Shri Ashish Bhave

Heramb Kulkarni reflected on some of the focus areas that can be developed for a smoother implementation of NEP 2020 vis-à-vis Vocational Education. Highlighting the research done by OECD on Evolution of Skills demand, 2017, he opined on various skills that are highly in demand from the industry but not sufficient and also some of the skills that are in surplus but industry doesn't require it anymore. Focusing on the present need of industry, he said that due to automation some of the skills are getting obsolete day by day, but skills such as deductive reasoning, originality, perceptual speed, sensitivity, empathy and other such higher order skills like creativity and critical thinking are hailed as requirement in today's scenario.

Therefore, there is a dilemma as to what kind of skills are required for the present industry.

Classifying the jobs into low, middle and high skill jobs, he said that automation has led to diminishing of low and middle skill jobs and resulted in a high demand for high skill jobs such as applying our thoughts, creativity and confronting new challenges to meet the day to day demand. Expressing the need to know the kind of citizens that India needs for the future and also the need to define NEP 2020, he gave example of Finland Education Programme and their research area to conduct creative pedagogy. Finland conducted a survey way back in 1970s, to make their education system future ready. The focus was more on soft skills such as interactivity, creative thinking etc., rather than the technical hard-core skills. The outcome of the survey was inducted into their education policy.

Talking about teachers, students and learning environment, Kulkarni emphasised about the the old and new ways of teaching. In the former way, the job of a teacher was content delivery and of the student was reproducing information whereas, in the latter way, with the advent of technology and information evolution, the job of a teacher is not merely to share information but instead help the students to apply and critically analyse the information i.e. to enhance students with skills. Stressing the need of skills from early childhood education, he spoke about transversal competencies such as cultural competencies, multi-literacy, integrated skills etc.

Highlighting the basic life skills imparted through education in Finland, he said that the entire takeaway from NEP 2020 is the migration from content to skills and added that it is very necessary to look into the structure of education system in Finland for implementation of NEP 2020. He also gave an outline of the structure of education system in Finland beginning from early childhood education to Doctoral Studies that is mainly focused on the basic skills. It is very much interesting to note that only 40% constitutes the syllabus of subjects and rest all is focused on the Artistic and Practical Studies like Home Economics, Music, visual arts etc. He stressed that here we should know where the focus should be given, whether on the subject studies or the practical skills.

Talking about career, he said, in the world, capability of skills is considered important for a job. In Finland, beginning from 7th grade, the stress is on the opportunities, mentoring and social construct, and the most important part is the interest. Talking about their experience while working with the Govt. of Chhattisgarh, he spoke about the tribal population who are active learners dropped out of schools from grade 7 because of the lack of interest to sit and learn in schools. Hence, it is very important to focus more on the interest of students. Giving example of Finland, he said that it is mandatory for jobs like

chef, waiter etc that they undergo a detailed skill development course from the age of 16. This shows how the skills are developed.

Speaking about the seven important requirements of vocational education as mentioned in NEP 2020, he focused on three aspects: Pedagogical patterns for students from grade 6 who indulge in internship with the local vocational experts, Applied Science universities as a major part for 50% of the learners to have exposure to vocational education and Prior learning skills and the knowledge of applying those skills to understand the skill gap analysis. Focusing on the curricular framework required, he gave example of skill evaluation framework that was implemented in Chattisgarh, Saksham programme in Maharashtra and also illustrating skill connect programme in Ireland he showed how industry and academia are woven together. He stressed the need of the transversal competencies and said that interest, passion and capability are more important than grades and marks.

Dr. Manish Kumarstressed on the emergence of the need of skilling the world over. The invention of wheel was one among the best human invention. Likewise, human civilisation has witnessed numerous inventions and it has been made possible only with skill. Education Ecosystem in India at present is focused on Industry 2.0. which is more like a factory line. Now we are in Industry 4.0, that responds to the technology. Industry looks for people who can work from the day they join the industry. That's where skill plays a very important role.

NSDC with the support of Government of India has been doing a great amount of work in skilling the youth force of India. Demographic Dividend has proved to be a great asset for any developing country. Countries like Korea and China have hugely benefitted with their demographic dividend. India has entered the window of opportunity to demographic dividend in the year 2005 and we will continue to enjoy this position till 2050. NSDC has lent money to private agencies to set up infrastructure for skilling. NSDC has about 10,000 centres across the Country with 600 training partners. NSDC has trained about 50 lakhs people per year in various traits and sectors. The impact of this effort and investment can be seen at the progress of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) where every 1 rupee that the Government invests draws a return of Rs. 4. NSDC has been creating Industry connect. We have learnt from various countries and have applied it to our advantage. We also work in 11,000 schools. We provide support to the Ministry of Education in imparting skilling at school level.We are proposing school level skill competition. NSDC has introduced apprenticeship course for colleges. At present nearly 500 colleges have started apprenticeship model and we are expecting more to come in different way. We

have witnessed that a large number of students have taken to digital platform. The COVID stage has accelerated the digital learning. In future we will see a blended form of learning. NSDC has created a portal "ASEEM" where 1000 plus companies advertise jobs. With the help of Artificial Intelligence matching of candidates is done in this portal. The entire process and discussion on job seeking and delivery is done through this portal. Through this portal 13.2 lakhs students were provided jobs.

Mr. Manish also feels the need to focus on entrepreneurship. India is in the need of Nano or Small entrepreneurship that can be created with a small loan of Rs.50,000. In order to become a strong economy, India needs to remain an entrepreneurial nation. The British have taught us to remain clerical and we remained a victim of this stigma for long. We need to realise that Nano entrepreneurs are the basic need for India's growth. Responding to the possible challenges, Dr. Manish says that we have infrastructural problems and we have to be very clear on the role what Government should be playing and what role the private agencies have to shoulder. There will arise a challenge of recognising and transferring the credit system. We require credit framework for smooth transfer of credit and skill. The Government has initiated National Council for Vocational Education which is forming the precise framework for skilling courses.

Mr. Manish says that it is very important to understand the aspiration of skilling. We have lost the respect of skilling during the British period and we continued the same unfortunately. We need to change the mindset. We have to start the discussion. We need to provide platforms to students where they can excel far better then the formal education. People have to talk skills, people have to recognise skills and appreciate skills. Answering the question on how do we make skilling activities reach at the rural areas, he says that we have to reactivate the gram panchayat structure. We have skill clusters. We should focus on cluster and bring skill to rural areas. We should localise and customise skills. Our youth force should be trained at indigenous skills. Indigenous skills are inherited and are our pride. We need to create a platform and market for the produce of the indigenous skills. Responding to the concerns of language barriers Dr. Manish says that in such a vast country like India language is a complex issue. We face problems on Common Cognitive Belief System. We learn in one language, speak in another language and understand in yet another. In this whole process, we lose the charm and quality of the content. That's why it is very important for us to encourage and promote the usage of local languages. Local language should be considered as the Primary language. NSDC is imparting skill in nine major Indian languages.

Curriculum and Pedagogy

- **Webinar Date & Time :**
  December 18, 2020 | 11 AM onwards
- **Speaker :**
  Prof. S C Roy, Professor, RIE Shillong
- **Moderated by : Shri Anurag Singhal,** Director, Doon Valley School

Prof. S C Roy
Professor, RIE Shillong

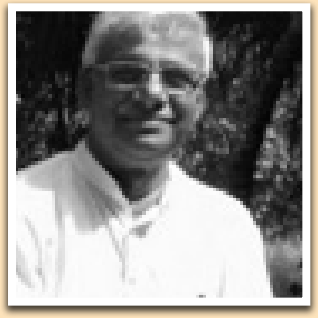
This policy aims to prepare a curriculum which can help our people to become best in the world and they should be able to navigate through complete world. This policy aims to make a pedagogy which can make us best in the world, making India a super power, people with great vision and wisdom. It also aims that our future generations should be compassionate, empathetic, should have scientific temper, they should be bold, and they should have values in life and having a meaningful and productive life. Now curriculum pattern would be of four stages 5+3+3+4 namely, 1st stage is foundational stage (Age 3 to 8 years), 2nd stage is preparatory stage (Age 8 to 11 years), 3rd stage is middle stage (Age 11 to 14 years) and 4th stage is secondary / final stage (Age 14 to 18 years).

Neural connections are formed by the age of 6 and maximum growth happens in this stage so mare focus is given in primary years of the child. Major attention is given and special curriculum would be formed for this age. Foundational numeracy and literacy is also taken up with national importance and would be executed by 2025. New subjects would be introduced in middle stage like design thinking, data science, artificial intelligence, holistic health, global citizenship coding, computational thinking. Multi disciplinary steams would be available in 4th stage and focus would be given on vocational education. Community collaboration would also be given importance and conventional and traditional knowledge from society would also be imparted to students.

Our pedagogy and way of teaching should be critical way of thinking meaning finding different ways of teaching and selecting the best by the educator depending upon local variables. Assessment should also be activity based and not only theoretical. When there would be change in thinking process of any individual it would be reflected in our behaviour and way of looking things in life. It would lead to holistic development of child and it's not only about information, but it would be focused on understanding things. Best pedagogy is when a child would be able to analyze and find results by doing things. ICT integration would also help in understanding things much better way. We should focus on team work projects among students so they would be able to work in a better way and become a better team member.

We need to provide curriculum and content according to Indian values and based on our constitution. Our pedagogy as prescribed in NEP would help in achieving this target and would make better and responsible citizens. We should provide good and interesting books in our libraries for reading so students start focusing more on reading. A new National Curriculum Framework would be created and then NCERT would create model books based on that. It will be pertinent to put diverse knowledge and stories in book. Moreover, SCERTs can make their own books giving more space to particular state related knowledge.

School : A centre for Social Service and Change



Dr. Ramakrishna Rao
National President, Vidya Bharati

Prof. Dhananjay Joshi
Dean,
University School of Education,
GGSIP University

- **Webinar Date & Time :**
  December 18, 2020 | 3 PM onwards
- **Speakers :**

  Dr. Ramakrishna Rao, National President, Vidya Bharati

  Prof. Dhananjay Joshi, Dean, University School of Education, GGSIP University
- **Moderated by :**

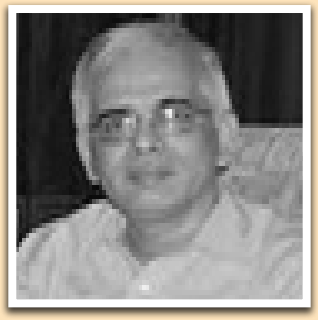
  Shri Anurag Singhal, Director, Doon Valley School

Ramkrishna Rao ji told that stake holders and agents of social change in schools are teachers, management, students, alumni and parents. Students can be involved in the nearby society's welfare work. Students can do a survey of what changes are required in the area and make some simple plans to work upon. Schools can adopt a village and oversee the overall development. Some projects can be run in nearby 'Basti' areas concerning fields like adult education and parenting workshops. Students from schools can go on summer camps to spend some time with under privileged sections of the society and people from society ca be invited to participate in school functions.

Prof. Joshi talked about making our student proud of the country. Every student should think of doing something for the country at least. It should not come from books but from the values taught by teachers. A student should think what they have given to the country and not what the country has given to them. College students can go to nearby villages and can teach school students during evening time or on holidays.

साक्षात्कार

Interview Reports



Interview with Dr. Shekhar C. Mande

Scientist Dr. Shekhar Mande (Secretary, DSIR and Director General, Council of Scientific & Industrial Research) on NEP and scientific research. The interview was moderated by Dr. Manjushree Sardeshpande (Head, Department of English, R.S.M.D.A.C. College) and Dr Sreevalsa Kolthayar (Assistant professor, NIT Surathkal, Karnataka). Excerpts from an interview:

Dr. Sardeshpande: *In NEP 2020, research has been given too much of importance, are we prepared for a change at all levels?*

Dr. Mande: The learning should be from the evidences around us. The teachers should encourage students to take evidence and then conduct research. Research is not always finding of new things, but its evidence-based learning. The research always doesn't require highly equipped machinery but change in mindset is required. Textbook learning should not be encouraged; rather greater importance should be given to practical based learning.

Dr. Kolthayar: *Is the focus on basic science research or translational research? Which according to you is suitable for India?*

Dr. Mande: There is no distinction between them, but we should work towards betterment of the Country. The major concern should be that research done should be original and not plagiarized. The research or any other discovery can be reworked but the objective should be the betterment of whole world. There should be more importance to the research work for which there is a demand in the market rather than which is probably of not more importance. It should be looked more into the betterment of the nation. The Industries, people, and the government should come together and encourage the research work. The CSR funds of the Industries should be encouraged for more and more funding of the research institutions.

Dr. Sardeshpande: *How do we encourage students to take up Research as their career?*

Dr. Mande: The students are influenced by the parents, friends, and teachers, and when they look at them the concern is what should they do merely for living a normal life. Teachers have a significant role to play in shaping the career. There is a requirement to have an orientation with the teachers about the research. The students care more about name and fame, rather they should think of the new discoveries that should be made for the betterment of the nation.

Dr. Kolthayar: *It's very challenging when looking at the Ph.D. holder's livelihood and the funds? In these circumstances how do we encourage anyone to take up research?*

Dr. Mande: The stereotypes which have been created that only the people who are doing jobs can earn more, instead after completing Ph.D., students can also become great entrepreneur of their own creations. Their mindsets have to be changed. The mindset that a Ph.D. holder can only become a teacher, has to be changed. There are multiple career choices that can be taken-up. The encouragement should be given to choosing the career that the student is willing to take and break the stereotypes.

Dr. Sardeshpande: *The number of Ph.D.'s produced is increasing day by day but how can we ensure useful and ethical research?*

Dr. Mande: Ethical values should be taught at all levels of education;

the concern of any research should be taken seriously whether it's on humans or the idea or any other person. Ethical values should be given greater importance from an early age.

Dr.Kolthayar: *The Publication house has majorly become more and more commercial and will that affect the copyrights of the Researchers?*

Dr. Mande: A publication house has been part of the research society for various years but in the present scenario the author has to pay and the reader doesn't pay. The present scenario is not a healthy way of promoting the research but the government should set up norms on the payment methods. The content of the research should be given more importance rather than where it has been published.

Dr. Sardeshpande: *Will NEP 2020, create an ecosystem for faculty and researchers to form and run a company with innovative ideas, is that possibility open?*

Dr. Mande: The NEP 2020 doesn't directly talk about the Start-up ideas but if the research has to be promoted, then basically the entrepreneurship thoughts have to be grown.

Dr. Sardeshpande: *How science and technology that is undergoing in our country, fulfill the dream of Aatma Nirbhar Bharat?*

Dr. Mande: The research which takes place in the Institutions should be connected to the grassroots of the society. Only after a proper channel is built between them, the dream of Atma Nirbhar Bharat can be achieved.

Dr.Kolthayar: *Research requires cross-border collaboration, but there are some bureaucratic or administrative constraints. How will NEP 2020 bring a change?*

Dr. Mande: The knowledge is universal and we should have communication from the fellowship who is working on the same fields and exchange ideas which will help researchers to understand the researcher's work in a broader perspective. The past research work in India was not globally recognized. NEP 2020 shall certainly help the research work to be recognized.

Dr.Kolthayar: *The budget spent for Research is 1% of the GDP in India compared with other countries that spend 3 to 4% of their GDP, will the percentage of funding increase after implementation of NEP 2020?*

Dr. Mande: A doubling of Research spending is necessary and much of the increase should come from the private sector and universities. In most countries, the private sector carries out the bulk of research and development even if the government must play an important funding role. However,India underspends on research, even relative to its level of development. But we also need to go beyond papers and patents to a broader contribution to providing value for society.

Dr. Sardeshpande: *Do you think that a multi-disciplinary approach will increase the quality of education?*

Dr. Mande: In a multidisciplinary approach, researcher learns to consolidate knowledge after synthesizing ideas from different perspectives. This develops their critical thinking, problem solving and research capabilities and it indeed pushes them to think beyond boundaries. Interdisciplinary education nudges students towards undertaking entrepreneurial ventures.

Interview with Prof. T.V. Kattimani

Professor T.V. Kattimani (Vice Chancellor, Central Tribal University of Andhra Pradesh and former Vice Chancellor, Indira Gandhi National Tribal University, Amarkantak) on equity and inclusion in higher education. The interview was moderated by Prof. B.V.R. Reddy, Professor at University School of Information & Communication Technology (USICT), GGSIP University, New Delhi. Excerpts from an interview:

Prof. B.V.R. Reddy: *What measures have been laid out in the National Education Policy 2020 to help socially disadvantaged groups? How do you feel these measures must be implemented?*

Prof. T.V. Kattimani: If you want to bring about change in any country, then you must start by revising its education system. The system must always reflect the country's environment, its culture, and the aspirations of its people. While the world around us has advanced towards increasingly holistic and interdependent disciplines of study, it is of some concern that our education system has a little way to go before catching up with the rest. But in our race to catch up, we have

forgotten the essence of our own education system somewhere along the way. The National Education Policy 2020, is but the first step in us working to reclaim our education system and put us at par with the rest without compromising on our values or principles. The professionof teaching, which has drifted towards commercialization in recent times, needs to be reminded of its role in society and the contribution it needs to be making rather than focusing primarily on personal or professional gains. This policy shall help redirect teaching towards working on every child's holistic development, rather than working with a purely results-oriented mind-set.

Prof. B.V.R. Reddy: *So, if we look at our first education policy post-independence, we can see that it talks about imparting holistic education, training students in the right skillsets, and inculcating a sense of entrepreneurship in kids from an early age. Today, all these years later, we are still a little way off from achieving this vision completely. What do you feel went wrong along the way? How do you feel about the notion that the new education policy can then hold up and be a game-changer when compared to the previous policies?*

Prof. T.V. Kattimani: The new National Education Policy, stands tall on a relatively unique concept in the context of our post-independence education system - that theoretical and practical knowledge need to go hand in hand. So far, our education system has been working under the influence of a post-colonial mind-set. We continue to prioritize English over regional languages, opening English medium schools in deeply rural areas and persisting with a Western-influenced system of teaching. It is disappointing that we make it a point to learn all we can about the rest of the world,while ignoring the world that's right here within our boundaries. So, while it is true that we need world class education here, it is important to do this while imparting a culturally and regionally-aligned curriculum to the students. We need to protect our wildlife, our natural resources, and our traditions so that they are well preserved and available in abundance for our future generations.

Prof. B.V.R. Reddy: *You spoke about changing mind-sets earlier and this is a very critical aspect of implementation, because if everybody is not on board with the change, then it can be quite difficult to implement it on the scale that we would need to in this country. How do you feel we can do this most effectively?*

Prof. T.V. Kattimani: On the contrary, I would say in this case, implementation can be quite straightforward on the whole. The reason I say this is, in most countries, the government would leave the task of education reform to the heads of educational institutions and regulatory bodies. But here in India, we have the Prime Minister, the Education Minister, and even the President standing firm on reform in the sector. The government is ready to actively engage with educationists, institutions, and students in order to contribute to change in the long run. The people of our generation may have gained degrees and careers, but a lot of us have also lost the true idea of India somewhere along the way. The new education policy provides a strong opportunity for us to do this. We must rediscover our mother tongues, our regional languages and ensure they have a more influential place in our system of education. This is the most ideal way to bring our diverse and cultured perspectives to the fore today.

Prof. B.V.R. Reddy: *What measures have been laid out in the National Education Policy 2020 to help socially disadvantaged groups? How do you feel these measures must be implemented?*

Prof. T.V. Kattimani: A few critics have pointed out that the policy has not made sufficient provisions for Scheduled Castes and Tribes or women, but the truth is that the NEP even looks out for the transgender community, andspecially-abledchildren, among others. The government is also identifying remote regions where accessibility to schools and multidisciplinary colleges needs to be increased as it is important that every student has the option to choose their field of study and in their mother tongue for the most effective form of learning. Educational institutions in such regions must also focus on educating the students on their region to nurture a sense of pride in their local culture. Every one of our states has its own set of success stories to inspire their children and they need to be spread well and wide through their educational institutions. The policy clearly recommends educating our students on the history and culture of our country to instill both national and regional pride and that is the best way to create an indigenous system of education that suits our outlook in the coming years.

Prof. B.V.R. Reddy: *What kind of steps have you taken to ensure holistic learning and development at Central Tribal University that you are heading as a Vice Chancellor?*

Prof. T.V. Kattimani: In my state, I have identified 10 interesting and important skills that stood out. One of these is carving out Veenas from fruit trees. At one point, the people who used to make these numbered in the thousands, but if you look at the latest figures, you wouldn't find more than 35 families doing this today. So, what we have done now at our university is, we have started a certificate course offering training in this particular skillset by employing these skilled workers to teach the course.

Similarly, mango is grown in vast quantities in Andhra Pradesh and this leads to a high production of mango jelly in the state. Given the great demand for this skill, universities in the state could provide specialized courses on this to encourage more businesses and ventures connected to this. There are a lot of similar options universities can explore to help out their local population, but chose not to so they can stay within their comfort zone and avoid any loss on their behalf.

Prof. B.V.R. Reddy: *When it comes to skilled work such as this, there tends to be a bit of stigma or a negative mind-set that creeps in to discourage people from taking it up professionally. How do you feel this can be tackled?*

Prof. T.V. Kattimani: Changing this mind-set is not too hard. We are no longer in that age where people are supposed to stick to professions. Today, people have the freedom to work where they can make the most profit, so naturally, those are the areas where education will flourish. Once people start seeing the benefits of picking up such courses, there will be greater interest in these skills and give them an opportunity to shine again. Now, with the NEP giving greater scope for such courses, it is hoped that universities across the country will increase such courses in their programs, including our own.

Prof. B.V.R. Reddy: *What is your opinion on teaching students in their mother tongue in primary education? Do you think teaching in mother tongue also needs to be extended to more senior courses after school?*

Prof. T.V. Kattimani: The language used, being the medium of communication, needs to help people gain utmost understanding

and the most benefit out of their systems. For young children, teaching concepts in their mother tongue would be the best way to reach out to them. It would help them understand more easily as well as strengthen their grip on the language at the same time. It would also serve to strengthen their local perspective and increase their understanding of their own culture and traditions.

Interview with Dr. M.K. Ramesh

Dr. M. K. Ramesh (President, Post Graduate Medical Education Board, National Medical Commission and former Vice Chancellor, Rajiv Gandhi University of Health Sciences) on NEP-2020 and medical education. The interview was moderated by Dr. Chetan Singai, Deputy Director, Ramaiah Public Policy center and Associate Professor Ramaiah University of Applied Sciences. Excerpts from an interview:

Dr. Chetan Singai: *What are the core policy recommendations within the NEP-2020 that you feel can have the most significant impact on medical education?*

Dr. M. K. Ramesh: At present, the new education policy has not had much to say on medical or legal education, but the idea is to incorporate these under the policy within the next two decades. In the long run, the NEP envisions bringing these streams alongside others in multidisciplinary higher educational institutions and universities across the country.

Currently, there are two important aspects that the NEP-2020 calls for attention in medical education: the quality of primary and secondary healthcare and the integration of various health sciences.

Dr. Chetan Singai: *What are your thoughts on the reforms laid out for the regulatory structure in the NEP-2020? How do you feel it will impact medical education?*

Dr. M. K. Ramesh: I believe it is a very good idea. If you notice, the Higher Education Council has four internal branches - one each for regulation, accreditation, grants, and education. The main idea is to bring in honesty and transparency into the implementation of the programs.

We need to observe how the powers will be distributed between these branches to maintain a healthy balance and prevent corruption in the long run. All four should have powers equitably distributed and they must be interdependent, this is the best way to ensure transparency.

Dr. Chetan Singai: *In the context of these changes taking place, what would be the scope of the National Medical Commission?*

Dr. M. K. Ramesh: The NMC is basically a stand-alone authority at the moment. In fact, I would consider it ideal if all institutions that dealt with health education were under the same overarching body.

The commission also has four similar branches of governance and the body is still taking shape given it was only set up recently. In the long run, we would like to usher in a new era in the field of health education.

Dr. Chetan Singai: *The NEP also recommends the importance of preventive and community medicine. How would this impact the current medical education scenario?*

Dr. M. K. Ramesh: India has a significant rural landscape and as such will find it difficult to access good quality primary and secondary healthcare. That is what we need to focus on strengthening in light of the given scenario.

The reality is that there exists a section of doctors today who are hesitant about working in rural or remote areas, while there is also a section of doctors who are deeply interested in doing the same, but are unable to do so because of factors including the quality of life, access to infrastructure, and their children's education, among other things. The government needs to consciously recognise these

gaps and work on bridging the same to enable more doctors to serve the society with healthy motivation.

In fact, in today's curriculum, we hope to introduce community education and preventative healthcare. Instead of treating a patient, it is better to prevent the person from becoming a patient. In this regard, we would like to promote yoga and a healthier lifestyle among the general population. We would also like to start courses on family medicine wherein the students there are trained specifically in family medicine to improve community healthcare.

Dr. Chetan Singai: *How would the NMC impact the status of entrance tests for medical colleges and for professional practice across states?*

Dr. M. K. Ramesh: Where the undergraduate entrance exam is concerned, it would provide a platform for applicants regardless of their pre-university education, so it would be recommended to keep this going. When it comes to post graduate courses, aspirants currently focus most of their energy on coaching classes to prepare for the exam and ultimately don't fare well during the course. To overcome such a scenario, we are planning an exit examination following their undergraduate course to certify doctors as ready for practice and eligible for PG selection at the same time.

Dr. Chetan Singai: *There is also the question of multiple entry and exit points as specified for undergraduate courses in the NEP. How can we envisage the same in the field of medical education?*

Dr. M. K. Ramesh: While this system may work in plenty of other streams, given the complexity of the work demanded of doctors and the sheer depth of knowledge required to treat patients effectively, a similar system will not be very effective when applied to MBBS.

Dr. Chetan Singai: *The NEP talks about energizing and motivating faculty in the medical education sector with issues of workload between practice and teaching affecting them significantly. How can we mitigate this situation?*

Dr. M. K. Ramesh: Faculty in medical colleges have an extreme workload and they are expected to fulfil all of their duties without sufficient motivation or incentives. The profession of teaching needs to be made more attractive and they must be provided with adequate

facilities to support their work. Banning private practice can also help maintain their focus on the teaching profession full-time. Instead, pay them well and incentivize them to teach effectively and improve the quality of education overall. Standards can also be improved through concerted teacher training and development programs within institutions.

Dr. Chetan Singai: *Nowadays PG students are tending towards teaching after their graduation. What can the NMC do to facilitate this process or enhance the situation?*

Dr. M. K. Ramesh: As it stands, PG students are supposed to teach their UG counterparts during the course. The NMC can improve the situation by training the PG students in interpersonal and communication skills to ease them into their role as teachers. Following their graduation, we can also provide a course on basic foundation training to solidify their skills before becoming full-fledged teachers.

Dr. Chetan Singai: *What barriers do you perceive for multidisciplinary universities in medical education?*

Dr. M. K. Ramesh: In my view there are no barriers, and these must be the norm as opposed to having too many stand-alone universities. These multidisciplinary institutions will improve interpersonal relationships, create a deeper pool of knowledge and ultimately create a more interdisciplinary workforce than cam contribute a lot more to society than the workforce today.

Interview with
Prof. Saradindu Mukherji

Historian Prof. Saradindu Mukherji (Member, Indian Council of Historical Research, Delhi) on NEP-2020 and Indian Textbooks. The interview was moderated by Dr Nagalingham, Assistant Professor, Department of Social Work, Indira Gandhi National Tribal University, Amarkantank.

Dr. Nagalingham: What is the role of ICHR Indian Council of historical research in the research of Social Sciences so far?

Prof. Saradindu Mukherji:

Let me first explain the jurisdiction of the ICHR. It only deals with the discipline of history. School textbooks on history are under the NCERT. The University education system, appointment of teachers, academic curriculum, research funding, fellowships, etc. are all controlled by the University Grants Commission and the respective universities. So, the ICHR only promotes historical studies at higher level and advices the government on certain historical issues from time to time, if and when it is called for. The ICHR promote historical studies and research by providing financial assistance. We have a journal called Indian Historical Review (IHR), which publishes

scholarly articles and book- reviews. The ICHR organizes its own seminars, and also helps various academic institutions all over India at various levels to organize academic seminars. Our major role is to provide Fellowships to research scholars at various stages in their academic career. Other important thing is research projects which are either done by individuals or by the ICHR. The latter is called Special Project. It involves a big team and it can work on any aspect of history whether it be ancient history, medieval history or modern history. We have our own Publication unit as well. Scholars apply to the ICHR for Publication grant. Then we also provide funds to scholars for collection of source materials abroad. Many important records are in British archives because England ruled India for 200 years and whatever you may think, some of the colonial administrators were very good at writing reports and manuals. Hence, Britain has many, many important and rare documents - Reports by local level officials, governors, correspondence with the "Home" office, the newspapers published in England. There are rare books which are not available in India, which were banned by the Britishers in India and which are available only in Britain. They have been very well preserved. This is one good thing I can tell you - the maintenance of old records in England is excellent. There are major depositories/archives in London like the India office Library, now called the British Library and the Public record Office. There are also major libraries/depositories in Manchester, Birmingham, almost all over in every major city like Reading and Edinburgh. Dublin, Archives (Ireland) also holds rare documents on India. So, concerning India, the lots of records are there. The ICHR also encourages scholars to go abroad, to attend seminars, because as you know, academics got to exchange opinions and ideas. So, it's a lot of work actually, but funding is shrinking. It's always as a problem. Thank you.

Dr. Nagalingham: How can we make our younger generation aware about the contributions of our great leaders especially during freedom struggle, even after that.

Prof. Mukherji: All of us have grown up with Amar Chitra Katha, and similar publications in different states in local languages- wherever you come from- Tamil Nadu or Rajasthan or West Bengal, all kinds of

books on the great nation builders. Now this is not the responsibility of the ICHR. That job can be taken up by the National Book Trust. They have published some such books but certainly more can be done. This is very important. Hence, all writers/scholars who are working on freedom movement and all our neglected heroes must be encouraged. A lot of people who don't know about all our nation-builders. People are told only about three, four, five names. The entire history of our revolutionary movement is done vey sketchily. I don't want to mention these names. Our children learn about Ramayana, Mahabharata from people around them, their families teach them. We have to grow a little beyond that stage people have to be told about the revolutionaries, the freedom fighters from medieval times, Rana Pratap, Maharaja Hemu, Rana Sanga, Chhatrapati Sivaji Maharaj, Chhatarsal Bundela, Swami Dayanand, Chapekar brothers, Subhash Chandra Bose, Bhagat Singh, Surya Sen, Jatin Mukherjee, Trailokya Nath Chakrabarty (Maharaj) and many others. ICHR is ever-ready to help with such projects. It held a major national seminar on Netaji and the INA and the proceedings are being published.

The ICHR is an apex body. All higher academic institutions can do some concrete, good work. This will naturally reflect on the working style and attitude of the younger scholars. Our nation needs absolutely unbiased scholars and all-India outlook. All parts of India have contributed to freedom movement. Yes, some States/ Provinces have contributed more. So that must be taught and we should be very, very unbiased. And this is the job of a very sensitive man, very unbiased man.

Because we have to tell younger people that we are Indians. You are Bhartiya's -we love our country. This is our heritage – all what our ancient Indian scholars did in mathematics, astronomy medicine, these are all important things which should be highlighted, which should be taught and the younger we teach them the better it is for them and the country.

Dr. Nagalingham: Very valid point. And rightly you said that India has a very rich knowledge system. So again, I would like to ask similar question, but though it is in the preview of a school education, but as a historian as an academician. We would like to know from you, how can we inculcate India's rich ancient knowledge system in our textbooks?

Prof. Mukherji: Yeah. ICHR has a special project on history of science and technology and work is going on there. There is a massive material in various foreign archives in Lisbon, Madrid, Paris, Amsterdam, and London Britain on various aspects of the Indian knowledge system -mathematics, astronomy, medicine. This work must be further encouraged, we need people because you know these documents, as I said are in Portuguese, Spanish and French. So, we need good scholars who know these languages. We have started, but it can be done by other bodies also. Culture ministry has a lot of funding for promoting research. Selection of scholars who are good or scholars who can be groomed. You see everyone doesn't become scholars at age of 20 or 30. So you have to spot, the talent and provide supports to those people who have the potential. And then groom him/her, take some funding, do some research. Mentoring well, so at every stage sincerity is needed. Sincerity, honesty of purpose is needed because we need ultimately good human materials. it should be unbiased and very objective; selection criteria should be very scientific and rigorous. We have lots of bright students all over our country. All those Indians students do very well and shine in every field who migrate to foreign land. After CV Raman no Indian scientist based in India has got a Nobel prize in science. You know, how CV Raman got Nobel Prize. He was basically an accounts officer; he was posted in Calcutta. Sir Ashutosh Mookerjee, father of Syama Prasad Mookerjee, founder of Bhartiya Jana Sangh was Vice Chancellor of Calcutta University, a very famous vice chancellor. He was a great mathematician. So Ashutosh Mukherjee spotted him and appointed him as a professor of physics in Calcutta university, and then he becomes the first India-based Nobel laureate in science - first and last so far. Just think of it, all those Indians who got Nobel Prize in science after that, they are based in England, America. Dr. Hargobind Khurana, Subramanyam Chandrashekar. So why this happens, this is very important question, why you can't produce original minds, why they don't continue to Horrobin live in India because our system we don't encourage creative and original scholars. A lot of bureaucracy and politics who they don't want real talent to grow- there is politics at every level. So why talented people, why they should suffer. So, you say in Japan, Australia, what population they have, there are

more Nobel Prizes in science than we have. Sir C.V. Raman got it more than a hundred years back!! This is something very serious. We should be ashamed of this attitude as a nation. Sorry to say, but this is a real issue. We should point that our policy makers should do something.

Dr. Nagalingham: Yes, sir absolutely, you are very well connected with our ancient knowledge and history and current situation, current state of everything you will. We will have an articulated discussion. Then in continuation the earlier discussion I would like to ask. Yeah, you already told what is the situation now? History books, contribution of important figures is left out in books So in continuation of that, so how Indian history should be initiated in students.

Prof. Mukherji: It's not that simple. It's true. It is good that, and desirable that Indian students should know more and more about our history. That is good. No, problem with that. we cannot cut ourselves off from the rest of the world. That is very important. Indian history is fine. You teach them about Patliputra, Ashoka, very important. So those gaps have to filled up, but the same time we are global citizens and India was known for this. We are not Kupamanduks. Our ancient universities, like Nalanda, Taxila, when they flourished, there was No, Oxford was there no Cambridge, no Harvard was there. People from all over the world including China came to India. My God! What effort they made those days traveling? Thousands of miles across, big mountains on a mule, on a horse thousands of miles- trekking to come to study in India. Indians scholars also went to various parts to acquire knowledge to China and Japan. So, the point is to prepare global citizens, and provide for exchange of information, which is very, very important.

Now science and technology, we are lagging behind. We may produce good engineers, maybe producing good scientists. So, there should not be any narrow-mindedness in this, we must absorb the best from anywhere in the world. India is fine. Not, we should not neglect India. You see, we had Sri Aurobindo Gosh one of the biggest minds India has ever produced. Yes, such a great mind, such a creative mind, such a nationalist, such a spiritual man. No one, no one comes near him, but see what happened to Aurobindo. He was sent to England at the age of seven by his father. Three of his

brothers were sent to England. That he should not study in India his father had felt. He should not grow up with Indians. That he should be a fine English gentleman and should get into ICS. Seven years without break he lived in England. those days traveling was not easy. Now people come and fly eight hours, 10 hours. But in those times a ship will take more than two months to go to England seven years. Hewas a bright student. He used to score, very high marks in Latin Greek. He got a rank in ICS examination also, but then he said, now this is my goal in life. my route is service to Bharat Mata. He becomes one of the greatest minds. I'm sure you've also read that. and every important Indian you study, like Dadabhai Naoroji who is considered as patron-saint of Indian nationalism. He was a member of British parliament, first non-British to get elected to the British parliament, 1893 in those days. So, I mean, any, you pick up any 10, -15 names for any part of India, top leaders, top leaders, any field politics, literature, science. All of them had studied in England. Isn't it? Sir JC Bose, Sir Prafulla Chandra Ray all these top scientists who didn't get a Nobel prize which is a different thing, but they are all prominent personalities who all studied there, but they came back. Prafulla Chandra Ray such an amazing professor. He wrote a book called History of Hindu chemistry such a great man, a great nationalist. He was a bachelor. He was a very nationalist he's used to help secretly the revolutionaries in Calcutta and did so much. He had a degree from Edinburgh. Historian KP Jyasawal, he was from Patna. He wrote a book called History of Hindu Polity, right? Hindu, nothing to be ashamed of. Why you have so much to contribute. Now we are hiding our basic identity. Don't say Hindu, be "secular"! Why is that? It's our identity and you're proud of that. We are not aggressive, we are open, we are liberal, that is our tradition.

Dr. Nagalingham: Okay. Amazing to know about the various personalities and their background and their success, but also, and you are telling that the roots should be strong and that global knowledge is necessary, mixing them together will give success.

Prof. Mukherji: I am a nationalist as you know. I'll tell you, you without good textbooks we can't produce a good mind. Knowledge is limitless, it spreads most effectively without restrictions? Okay.

We won't allow somebody to be speak against India and our culture. But if there is a there is a reasonable argument, criticism is permitted. Raja Rammohan Roy, Ishwar Chandra Vidyasagar and Swami Dayanand Saraswati criticized society's defects and we worship them. We have no concept of fatwas and excommunication.

Reasonable debate, dialogue process has to go on. This is our tradition, this is Hindu tradition, we don't oppose dialogue. We accept self-criticism also at the same time we are open and that is how your mind goes to its fullest potential. That must happen.

Dr. Nagalingham: So, with this preliminary discussion, now we will move to NEP2020.How do you think that NEP 2020 can transform the historical research in India?

Prof. Mukherji: Now see, the NEP looks very good on paper. I have, no objection to it. But the real test will be seen after two or three years. It should be implemented first. We must see the fruits of this. Most of the issues are very fine. Language, mother tongue interdisciplinary studies are very fine. MPhil has been dropped, all kinds of nice things are there, but how it is implemented and who are the people who will implement this? That is important. So, I can give you a proper answer to this. If I'm alive only after two or three years, not now: it will be premature. I'm saying in principle, it is fine. I have written in support of it. ICHR asked me for a written report on it, I gave a report. So, no problem.

What is the problem now -- a couple of them? Teaching in mother Language---- Let's suppose- a Tamil boy is studying in Bhopal. He wants Tamil language to be taught. Can he get that facility or a Bengali speaking student while he is living in Kerala, can he be taught in Bengali if he wants to study in Bengali? Can our system provide that? I don't think so. More than 6000 teaching jobs in universities are lying vacant in India. I don't think they have been filled up. I don't know why - maybe funding shortage, or lack of requisite qualifications.

Dr. Nagalingham: That's definitely going to be a challenge

Prof. Mukherji: So, there are so many grand ides in NEP 20. That would be good, but can you do it? So, there are logistical problems.

Dr. Nagalingham: Maybe, maybe this opportunity we got through lockdown that is online opportunity. Maybe we can explore it more

Prof. Mukherji: Right, that is an example. That's an alternative. Actually, teaching in mother tongue from early level is very good because the capacity of the child to pick up language is very, very good at that stage. In India all of us speak at least 2 or 3 languages, Hind, English plus our mother tongue maybe English in school, Hindi or maybe our mother tongue, that is important. And then no drastic change should be done about teaching at higher level, because we don't have textbooks. We can't say we will introduce Hindi in IIT. You just can't do it unless you have standard textbook in Hindi or have teachers qualified to teach in that subject.

Subject content is very important. You see, one more thing I have found is there is provision for setting up a national Institute for translation in the NEP. That is very good. Translation is very much needed, but it must be properly done. Whether it is engineering in IIT or civics are in class six, textbooks written by real good trained scholars and teachers are necessary condition. Teacher also should have good teaching qualities, that is very important. So teaching is key to nurture tender and receptive minds.

Dr. Nagalingham: You explained about the teaching. The research also NEP 2020 has given more emphasis on outstanding research. My question is how can the history academicians be prepared to take up such outstanding research in the coming days?

Prof. Mukherji: I know I have dealt with some these things 15- 20 years back; I was a member of the Indian council of social science research that deals with the rest of the social subject, excluding history. As you know, economics, political science, sociology – about 12 subjects are dealt by ICSSR- that is a bigger institution. I was a member for two terms there. So, I have dealt with this problem. there are so many researchers in every state. Also, you get a lot of funding from abroad. But again the, problem is a good quality research. Actually, one shouldn't mind saying this - our quality of research in social science is very poor.

Then PhDs, doctoral thesis that you see except few universities, the standard is very poor. Sometimes, I return the doctoral dissertations,

I can't look through it.

Dr. Nagalingham: Understood This is the reality, but our question we would like to know from a person like you as experienced a person in the domain area. So, what can we do? What can we do, how to prepare the academicians, researchers, to, to go to the next level of research, which will give outstanding research in the, their communities?

Prof. Mukherji: Yes, we must encourage. Both the students and teachers need to do more serious reading, they should be familiar with the latest writings on the subject- all over the world. There are so many journals, so many good scholars. The scholars must keep in touch with the latest writing on subject. We can't say no, no. I'll only read books written by my friend or my people belonging to my group. No, no, no. This is deplorable. Our people must be exposed to the best of scholarship.

Then those who are educational administrators, those who do the funding, those who are selecting scholars- must be very, honest and rigorous. They should, have some minimum standard. We want our scholars to fulfill that standard. Otherwise, things will fall farther - are falling every day. I can see that. Now this is my sixth year in ICHR and I'm not very happy. Most of the research that are done are of very poor quality.

I can't talk openly here, but you see, because people have vested interest. Water seeks its own level. Unfortunately, the general level is going down. So, people who control it also unfortunately have that level. So, they also prefer people were not very good because they themselves are not good. I mean, put it as bluntly as that. So, this is the responsibility of the key persons controlling the intuitions of higher education in India. They must be thoroughly academic. There must be also good human beings - unless you're a good human being, you can't be honest. So that basic honesty has to be there. We were spending so much of money. So, no compromise. We must have the best people. In India. What happens is this best of people are not selected, best of people have no opportunity to grow in India. One had to follow certain lines in social sciences, historical studies So conformism became the essential qualification not the academic worth. It is most regrettable.

And only when NEP is implemented. I say after two, three years, five years, one can assess what good it has done, whether it has done any good at all or we remain where we are. Yes. But let's implement it. We must be optimistic.

So why should they expect bad things? We expect good things and hope, that the authorities will have the right people at the right place. They'll be more objective. They will be more academic. The problem arises because so many non -academic considerations. And that's why we can't produce many good scholars. I told you, I don't mind who calls me what but why? Many of our great people were born in British time. Subhash Chandra Bose was born in British time. Isn't it?

Dr. Nagalingham: That is true sir.

Prof. Mukherji: Most of our great personalities were born in British time. Why India has not produced any one of the statures now, why you don't produce? Why we don't produce a Dadabhai Naoroji, Lokmanya Tilak or Surendra Nath Banerjees any more. Something has gone very wrong since Pandit Nehru's time. So, let's hope it will change for the better.

Dr. Nagalingham: Thank you. Thank you. It was then we'd like to move to the multi-disciplinary aspect emphasis in NEP 2020. My question is, and given the fact that research is going to be multidisciplinary asper in NEP 2020, what would be? the research agenda in the discipline of history?

Prof. Mukherji: this sounds very fine. Interdisciplinary research. Sounds fine. And this is very often seen in European academic circles and North America. There are very outstanding scholars who have worked on these lines. In India, this approach must be encouraged it, but again, the basic problem, you must encourage people who have that inclination or basic qualification. If they are well-trained, then only they can train another generation of scholars. So, number one, I repeat principle is fine. This term is fashionable. If this is properly done, this will yield good results. So, I'm all for it. But again, basic requirement is the same.

We must have the right kind of scholars, right kind of guidelines.

Look, what do you mean by interdisciplinary study define it? Okay. So subject A is history, subject C economics, subject D is political science. These are the subjects. So, the scholars, the head of the institution, the research guide, the mentor, they sit down, they will talk about it. What kind of, academic, intellectual tools have been prepared for that kind of initiative? So, this must be thrashed out. I mean, just speaking out few things, doing a few Google searches won't take us very far. I still feel, textbooks are very important. We don't have that kind of textbook in India. We don't. I have taught for more than 40 years in Delhi University, North campus, south campus- post graduate students, my honors students. I've been speaking here and there. So only those students, are really good who have widest possible reading habit just not of the particular subject. One name I always mention is, Fernand Braudel. He was a French historian. He studied, the history of Mediterranean region, the history of that region is the classic work, which incorporates political history, geography, economy, society, culture etc. So, this is called real interdisciplinary work. So, when he died, I remember I was in England and the obituary written by THE TIMES- and first-line started with something like this- 'Unfortunately, there is s no Nobel prize in history, but if there's was, Fernand Braudel should be the first recipient of that'. This is genuine interdisciplinary research, that he did.

Dr. Nagalingham: Hopefully in coming days this kind of a research takes place in India also.

Prof. Mukherji: surely before 1947, people have done some work on it, Radha Kamal Mukherjee did inter disciplinary research.

Dr. Nagalingham: Internationalization is mentioned in the NEP. So, under the initiative of internationalization in NEP 2020, So there will be international students, to join various Indian colleges and programs. programs like AYUSH and those that are the strength of India like that? It is mentioned that their policy, so how, how can India attract them? How the education institutions can prepare themselves to attract foreign students. That is the question.

Prof. Mukherji: This is nothing new for India. The current generation

need to know that. Even now, many foreign students, mainly from South Asian countries like Thailand, Japan, Korea come to India for studies in Buddhism and other disciplines. There are scholars from other countries also coming, because higher education in India is really cheap. Isn't it? So, it's compared to what a student has to pay in England and North America. So that's one reason. And some of institutions really provide world class, international level education. No doubt about that. A lot of IITs and management schools, and certain other universities are maintaining a very high standard. Only if we have a reputation, we first have to build up our reputation as academic institutions, and, secondly Our government, should provide more scholarships. Government of India provides scholarship to the students from neighboring countries like, Sri Lanka, Bangladesh and many African countries. Our reputation should be above board. Only if our standard is good, let's hope things will improve. lot of Indians go to teach abroad. That is also fine. And once in a while, teachers from abroad, they come and teach here also, but that scale that number has to grow more and more students more and more teachers. Yes, it can be done.

Dr. Nagalingham: Okay. Thank you. Finally, we would like to hear from you, what are your suggestions for the better implementation of a national education policy 2020? Okay. Yeah, I'm not touching schools, um, or touching schools, I am touching higher education beyond school. Undergraduate postgraduate levels First thing is academic curriculum must be updated, which is pathetic I must say is a very poor quality. What do we have? No change had been done for so years, not last one was in 1986. So, this is a welcome step.

Prof. Mukherji: First is syllabus has to be drastically overhauled. It should be at par with some of the best universities in the world. then. Secondly, we must be open to use the idea of course-content from all over the world. No compromise in that. I have enjoyed reading British history. I find some of textbooks of British history very fascinating and of very high standard. So, textbooks are very important. And teacher education equally important, even, I think those were teaching in the university should be sent to workshops and refresher courses.

So everywhere the quality of teachers must be assessed and evaluated

in terms of publications, in terms of quality lectures. Attendance is very important. We see a lot of rural, areas, schools, colleges most of the time teachers are not there. This happens in Delhi University also. In some college's teachers don't go for classes, I think overall improvement is needed in the quality of syllabus textbooks and teachers. We need good people at the top, and that is the most difficult thing. People who mostly come to the top and they are always a very doubtful quality. let's be hopeful. You are young people, you and Dr. Anish - we expect a lot from your generation You have a very big responsibility. My best wishes.

Dr. Nagalingham: Thank you so much for wonderful explanation and discussion. We had a wonderful time.

Interview with Prof. Mazhar Asif

Professor Mazhar Asif (Member, NEP draft Committee 2019 and Professor, Centre for Persian and Central Asian Studies, School of Languages, Literature and Cultural Studies, Jawaharlal Nehru University, New Delhi) on equity and inclusion in higher education. The interview was moderated by Professor Pankaj Arora, Department of Education, University of Delhi. Excerpts from an interview:

Dr. Arora: *First of all, I would like to compliment you and entire team on national education policy for bringing out such holistic and Indian policy for education. Being an expert of language, literature and culture has helped you do justice to the most challenging task of setting it up in the right spirit without any substantial controversial issues. Minor issues, maybe some political or maybe some apprehensions we have seen, but largely the policy's aspects on culture, language and literature have been well received by academia. So, we all understand that this was a marathon task, which your committee has done. Given this context, how do you feel the education policy 2020 will transform higher education in India?*

Professor Asif: When our goal is to aim for the development of the country, it is important to frame a strong policy on education that

takes into account knowledge and skill building. Any education policy that is not based on knowledge and skills cannot be considered as a complete policy. Our policy must also focus on going beyond mere sharing of knowledge. Education shall be imparted with wisdom and foresight, something that adds to the intelligence of our students and enhances their growth further. The purpose of this policy is to create a society that is equitable and at the same time gaining a broader perspective on life that makes them more tolerant, productive, and dedicated to the progress of their society in every way they can contribute. The policy essentially aims to contribute strongly to the mental, physical, and spiritual development of the students. Until now, students had mainly been focused on 'rote-learning' because the system too was such that this seemed the easiest solution. The new policy is framed at eliminating this through a greater focus on experiential learning and greater in-classroom participation by students throughout the course. Every student has their individuality, their own strengths and weaknesses and any system that doesn't work with them based on their specific characteristics is ultimately going to fail them where true education is concerned. This policy gives these students greater choice in what they learn through a multidisciplinary landscape where they can pick out a diversified field of study and enhance their potential in a more competitive work environment tomorrow. On top of this, the policy also ensures that no matter how many years of degree a student studies, tomorrow they will still have an opportunity to be employed; thanks to the exit options that provide them with a diploma that matches their level of learning in the subject. Students facing extraordinary circumstances who were previously forced to struggle upon dropping out, however, they can now leave and return to their course at any time, while still being able to work in between without much difficulty. Our aim is to ensure that every Indian university can live up to the ideals of Takshashila or Nalanda and to offer every student anocean of education where they can delve into the depths themselves and discover the pearls of their choice. To make it easy for students to choose, we have also categorized all colleges and university based on their priority and they can now choose between research and teaching-based institutions are getting their degrees from autonomous institutions if they prefer. This is basically how we wanted higher education to be developed in our country.

Dr. Arora: *So, the ECCE talks about foundational literacy and foundational numeracy in primary education. How do you see foundational literacy under the new policy influencing the language education of children from a younger age?*

Professor Asif: The foundational education that the policy talks about, is basically something that already exists in private institutions in our urban centers and have been around for years. However, our rural population and even socially and economically disadvantaged groups in cities have not be able to access the same due to financial considerations or simply a lack of availability in the neighbourhoods. This has led to a slower rate of development among these sections. As the policy aims to bring everyone on the same level from the beginning, our Anganwadis will be transformed to provide a more comprehensive education that imparts foundational literacy and numeracy through play-based education, experiential learning, and greater teacher-student interaction.

An early foundation can be critical to improving the condition of these students and give them an equitable platform with urban students. We are doing everything we can to help these students gain as much as they can through this system and now, we have introduced breakfasts in schools for the first time to give them the nutritional support needed as much as possible. Every year, lakhs of students drop out from schools and it is truly painful. One of the most common reasons for this is that they could not continue in school because they were struggling financially. Some of them would even come to school for the sole reason that they would get a free meal for the day. We would like to do everything we can, to bring in the greatest number of students and aid in their social development and transform them into well-educated and valued members of tomorrow's society. Now to answer what you asked about language. The UN, UNESCO, and Mahatma Gandhi, among others, have all stressed on the importance of educating students in their mother tongue. Beyond being about communication alone, language is intrinsically linked to our history, our culture, and our values. Additionally, evidence on the ground today is clear that there is a significant communication gap at times between young students and their teachers. Students quickly lose interest in learning and disengage, as this gap increases. It calls for a system that understands the needs of students, that communicates with

them in their zone of comfort and encourages them to venture out in a sea of information that was alien to them until then.

Dr. Arora: *The new policy is intended to bring about a change in society on one hand, but also revamp the education system on the other. How do you see our universities managing this change on the ground?*

Professor Asif: Every single village or town is full of traditional knowledge. Yet, it seems like we don't observe or appreciate this enough. This system of knowledge and learning has been built by a strong, value-based, and time-tested culture of education. It is our primary duty now to preserve this system and beyond that, ensure the future generations learn to take it forward in the right spirit. It is the role of universities today to gather and impart our traditional wisdom in a phased manner that teaches the students everything from history to medicine and give this knowledge back for a prosperous society.

Dr. Arora: *There has been a little criticism from some corners that the new education policy doesn't focus enough on education for minorities. What are your views on this?*

Professor Asif: Firstly, if you look at the policy, it is a nationwide policy that is aimed at every citizen. Moreover, recognising the need to provide additional support to minorities, the policy recommends identifying minority dominated areas and constructs at least one KendriyaVidyalayas and Navodaya Vidyalayas in these areas. The policy also recommends scholarships and fellowships for students from marginalized classes and other weaker sections. We have already spoken about how students from disadvantaged or marginalised sections of society struggle to continue in school and drop out before completing their education. This policy is intended for every citizen and that inclusivity means we will do our best to ensure everyone stays in school. Additionally, language education will be provided in keeping with the policy that recommends educating students in their mother tongue.

Dr. Arora: *What is your understanding on learning of Indian languages over French and Spanish and other international languages? How do you think these can be received by young people?*

Professor Asif: Okay. Before I come to your question, I want to share one observation. If you look at the most successful countries in terms of achievement on the global stage, for the most part their medium of education has been in their respective mother tongues'. If you look at us, we have 22 languages officially recognised by our constitution aside from a number of classical languages originating in the country. There is without a doubt, no question of imposing any language on anyone in a country with such a diverse range of languages. Having said that, if a student is most comfortable learning and speaking in their mother tongue, wouldn't it make sense to begin their education in the same language? Of course, once students are capable of getting a good grasp on their learning, there is no restriction barring students from learning the languages of their choice if they wish to. In my view, the ultimate purpose of this policy is to bring the best hidden within every student, maximize their potential from the earliest possible time. But this will always be hindered by a communication barrier to a degree if we teach in a language that they're not necessarily familiar with from the off and it is about time we change this perception that knowing English is a sign of superiority. The language must be taught, but it must not define the child's education by any means. So, the suggestion is that we are not against teaching or learning any language, all languages are equal. But the foundation of teaching and learning must be based on our mother tongue for the best results.

Interview with
Prof. Anil Sahasrabudhe

Prof. Anil Sahasrabudhe (Chairman, AICTE) on NEP and Technical Education. The interview was moderated by Prof. B.V.R. Reddy, Professor at University School of Information & Communication Technology (USICT), GGSIP University, New Delhi. Excerpts from an interview:

Prof. B.V.R. Reddy: In your view, what are the challenges and roadblocks to the implementation of NEP 2020? What steps need to be taken for effective implementation both at school and higher education level?

Prof. Anil Sahasrabudhe: The first significant challenge arises with the transformation of the school system from a "10+2" to a "5+3+3+4" model. We need to explore what would be the most effective way of bringing together schools and preschools in their different existing structures under the same roof. This can either be done with all students attending school during the same hours, so that the preschool students are more exposed to formal education from a younger age or have students attend school during different hours with a staggered time table.

The NEP also recommends the introduction of vocational education and training from grade 6 and onwards. The challenge lies in presenting a mixed and diverse variety of options to students and ensuring access to tinkering labs in every school in the country.

As schooling in high school becomes more multidisciplinary, colleges will need to be conscious of this change in curriculum and consequently support students with mixed subjects as minor options in their bachelor's and master's degrees. Colleges becoming more multidisciplinary would call for expansion of institutions as well as collaboration between institutions.

Significant challenges will also be faced in the enabling of multiple entries and exits in higher education and the creation of an academic bank of credits for students looking to change their field of study in the middle of a course. Curricula will have to move away from a linear year-on-year knowledge base dependent on prerequisites to a system that ensures students are imparted knowledge that makes them employable right from year 1. As some students may want to switch courses out of interest, a uniform and widespread system that enables effective conversion of credits in their new course will ensure their education till that point doesn't go to waste.

Prof. B.V.R. Reddy: *As the NEP places greater focus on the health and nutrition of children right from the primary school level, do you think this will lead to increased enrolment or would there be any challenges in the implementation of this section of the policy?*

Prof. Anil Sahasrabudhe: I think in terms of enrolment we are already seeing improvement with more schools opening up in the remote parts of the country. The Mid Day Meal scheme, too, has been successful in ensuring children come to school on a regular basis. Adding breakfast to the scheme will certainly add to the benefits we are seeing already and naturally improve the health of the students as well. Along with this, I believe we need to educate kids further on better health and hygiene to expand awareness in their homes and through them, the wider society. We need to take a closer look at enrolment in higher education, which is at about 27% today from just about 0.7% at the time of independence. In the next 15 years, we need to ramp this up with more vigour and take the number to at least 50% for a more employable and productive society.

Doing this at a low cost, without compromising on quality across all domains will be a significant challenge in the coming years. To enable this, the policy envisions a university in every district of the country. In regions with an excess of universities, mergers of these institutions will serve to consolidate resources and strengthen their set up for the benefit of the students. Making use of technology wherever possible to create a blended system of learning will also encourage greater enrolment in universities. University education will be able to reach more remote regions and these students will be able to access the highest quality of education without much difficulty. The government should support this with the provision of access to high-speed internet across the length and breadth of the country.

Prof. B.V.R. Reddy: *What are the impediments to introducing National Skill Qualification Framework (NSQF) in every college across the country?*

Prof. Anil Sahasrabudhe: The new NEP 2020 talks about a fresh framework known as the National Higher Education Qualifications Framework (NHEQF) which is the amalgamation of everything that is talked about in the skills domain and its application in general education. The Higher Education Commission, which has been recommended by the NEP as the sole regulatory body for higher education is also tasked with setting the standards for higher educational institutions. This is where the NHEQF will fit in and the HEC will ensure its effective implementation uniformly across institutions.

Prof. B.V.R. Reddy: *How is the AICTE gearing up in implementing the policy and what guidelines or directives are being issued to institutions to support the same?*

Prof. Anil Sahasrabudhe: In order to support the NEP's recommendation to reach children in their mother tongue for more effective transfer of knowledge, we are coming up with textbooks and instructional material in various languages to support this implementation all the way up to higher education. As the NEP also places greater emphasis on value-based education and the teaching of our ancient history and heritage, material is being prepared with comprehensive research to provide the same to students. A three-week induction programme in universities that imparts our values is also being planned to help students adapt to a more value-based approach in their higher education.

Prof. B.V.R. Reddy: What are the challenges or drawbacks to bringing holistic development subjects into the mainstream rather than pursuing them as co-curricular subjects?

Prof. Anil Sahasrabudhe: Initially, these subjects used to be considered as extra-curricular, but now we call them co-curricular. Now the NEP hopes to make these fully curricular subjects. As credits system comes into place, students will be required to take up holistic development subjects aside from their core subjects in order to fulfil their credit requirements every year. This will ensure these subjects receive equal attention and importance in every course by default. In fact, the ideal way forward would be to inculcate a little bit of holistic education directly into every single subject in a given course.

Prof. B.V.R. Reddy: *Currently, India's spending on research in education is far lower than it should be. How do you see the new education policy changing this situation?*

Prof. Anil Sahasrabudhe: The policy recommends the establishment of a National Research Foundation to be headed by the Principal Scientific Advisor to the Government of India. This is a powerful indication of the level of importance attached to research through an institution of this strength. The NRF will keep a close watch on the need for research in every field and allocate resources accordingly. It will also ensure greater accountability, effectiveness, and outcomes with every research project. The NRF will also encourage contributions from the private sector to create more opportunities for everybody's benefit.

Prof. B.V.R. Reddy: *So far, why haven't we been able to expand public-private collaborations in education to their full potential?*

Prof. Anil Sahasrabudhe: Over the years, things have certainly been improving in this regard. The private sector is now offering more internship, more opportunities for student innovation and providing more funds for research in their respective academic fields. This change has been especially apparent since the liberalisation of our markets and the need for organisations to work on their own innovation and create indigenous products and services.

Prof. B.V.R. Reddy: *How can we improve the quality of PhDs in the country and ensure greater employment opportunities post their research and education?*

Prof. Anil Sahasrabudhe: What needs to be taken into account here is to analyse whether each research project being taken up is beneficial to the country, to our society, and to our quality of life. Only a rigorous application of this filter can lead to a better quality of research and PhDs and therefore create more opportunities for their employment.

Prof. B.V.R. Reddy: *Why do we consider the reputation of journals based on their national or international recognition rather than the value of knowledge they create? How can this problem be addressed?*

Prof. Anil Sahasrabudhe: Certainly, today there are quite a few international journals that are of poor quality, while there are a number of Indian journals that publish information of a fairly high quality. Categorising them in this sense is not the most effective means of approaching their credibility. A more thorough system of peer review and standard setting can provide Indian journals with greater credibility and encourage more researchers to publish their material in these journals and improve their recognition in the long run.

शोध पत्र एवं लेख

Research papers
and articles

Role of Language in Education

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ABSTRACT

This paper throws light on the role of language in education. Language is the backbone and integral part of education. Knowledge and language are the two sides of the same coin. Language plays an important role in man-making- character building. Not only developing the cognitive abilities, psychomotor skills but providing the correct mental make –up and critical insights is also the main function of language. The role of mother tongue is vital at least in the formative years of a child. It provides a solid foundation in the making of every individual as concepts are best understood in the mother tongue and innermost thoughts of the individual are also best communicated in the mother tongue. All the Indian languages, mother-tongues of the large Indian population have a rich cultural heritage and indigenous knowledge and wisdom can be brought to light only by studying and promoting our Indian languages. English has also become an integral part of the country. It is the second-largest spoken language in the country. It is also the language of information, communication and technology. Hence bilingual mode of teaching and learning is recommended to reap the benefits of the Indian languages and English. In this case the mother tongue- (Indian Language) and English (foreign language) will be equally developed. "Submersion" to be totally avoided.

Key words: Language , Education, Mother tongue, Multilingualism, Bilingual Mode

Introduction

Language plays a very important role in human life. It is the light of mind. It shapes thoughts and emotions and determines one's perception of reality. Language is the road map of a culture. It tells you where its people are coming from and where they are going. Language is the divine gift of God and finest asset of mankind. Language is not only means of communication but it builds economic relationships, friendships, and cultural ties. It is a means for intellectual development.

Language and Education

Nature is an expression of God. The whole creation has umpteen messages embedded which can only be unravelled through different perceptions kindled by intelligence and thought. There is a language of nature, of animals, of every living and non-living things. They respond to particular stimuli. To understand this language requires a refined insight. There is a communication going on in nature and to understand this requires learning and understanding. This is called knowledge. Different schools of thought including logic, philosophy, mathematics, astronomy, medicine, chemistry etc can have different dimensions depending on the language.

Swami Vivekananda on Language

Swami Vivekananda says that "education is the manifestation of perfection, manifestation of the divinity already present in man, knowledge resides within the individual, he simply discovers or realises it."To him, education is not the amount of information, put into one's brain, which may be there undigested all one's life, it is, rather a life-building assimilation of ideas. Swami Vivekananda's famous speech wherein he began with "Sisters and brothers of America…. clearly indicates the impact of language. Language communicates, culture, character, knowledge, intelligence, insights etc. Swamiji introduced the philosophy from the Upanishadas to both the occidentalists and the orientalists.In 'Vedanta and its Application to Indian Life' he said: Sanskrit language is so intricate, the Sanskrit language of the Vedas is so ancient, and the Sanskrit philology is so perfect, that any amount of discussion can be carried on for ages in regard to the meaning of one word' (3.233). In one of his writings he stated: 'The miracle of language which was called Sanskrit or "perfected", lending itself to expressing and manipulating them [poetic insight] better than any other tongue. The aid of melodious numbers was invoked even to express the hard facts of mathematics' (6.158).There are computer scientists who are of the opinion that Sanskrit can

act as a perfect language for programming and scientific applications. Sanskrit is already widely used as a meta-language for knowledge-representation in machine-translation and other areas of natural language processing, because of its highly regular and unambiguous structure. It was not that Swamiji spoke only about the Sanskrit language. It is just that he found the Sanskrit language better than other natural languages. He held that all languages act as basic tools of communication within their own structural and conceptual limitations. All languages, from the standard to the least used vernacular, have their own importance. He clarified: 'The difference between the language of the highest philosophers and the utterances of the babies is one of degree not of kind. What you call the most correct, systematic, and mathematical language of the present time, and the hazy, mystical, mythological languages of the ancients, differ only in degree. All of them have a grand idea behind, which is, as it were, struggling to express itself '(2.74).

India has a rich tradition of exploring the mind, perception, cognition, and consciousness. The analysis of the language of a people can reveal its overall philosophy of life. Swamiji, at various places, explained how different linguistic conceptualizations for the same action or event can reveal the cultural framework, spiritual grounding, societal acceptance, and attitudes of a people. One of his most quoted examples about 'death' is as follows: 'In Western language [English], a man gives up the ghost, but in our language a man gives up his body. The Western man is a body first, and then he has a soul; with us a man is a soul and spirit, and he has body. Therein lies a world of difference' (3.380).

Role of Mother tongue

Swamiji favoured the use of the vernacular over Sanskrit as a medium for teaching. He stated: 'Therefore the ideas must be taught in the language of the people; at the same time, Sanskrit education must go along with it, because the very sound of Sanskrit words gives a prestige and a power and a strength to the race' (3.290). 'It is culture that withstands shocks, not a simple mass of knowledge' (3.291).

Simplicity is a key to success in all spheres of life. It is equally true of a language. Swamiji believed that language should be simplified, only then can it be accepted and used by all. A language accepted by all is the language that lives the longest. The use of the simplest language is the best, and a teacher who uses simple words succeeds. All the great philosophical teachings were made available to people through popular mythological stories in the vernacular. 'Of

course, scholarship is an excellent thing; but cannot scholarship be displayed through any other medium than a language that is stiff and unintelligible, that is unnatural and artificial? … Do you not think of your scholastic researches in the language which you are accustomed to speak at home? Why then do you introduce such a queer and unwieldy thing when you proceed to put them in black and white?' (6.187).

Though all natural languages are capable of expressing sublime thoughts, modern scholars believe that the **language one acquires as the mother tongue is the best medium for transmitting information, ideas, and knowledge**. The concepts presented in the mother tongue are grasped much easier than any language that one learns later through formal instructions. The mother tongue is to the mind as blood is to the body. Therefore, teaching children in the mother tongue can produce better results. There is enough evidence to show that learning and language are closely related to each other. 'Every man is capable of receiving knowledge if it is imparted in his own language' (5.263).

Gandhiji's Views on Use of Mother tongue in Education

Gandhiji was of the opinion that youths should receive education through the medium of their vernaculars. English people have ruled over our nation for nearly 200 years. It is a fact that we have nearly 19, 500 languages or dialects spoken all over the nation and due to such a diversity we do not have a common language throughout the nation. There are political differences too and even though the English medium schools are mushrooming, English can never become our national language. Our best and deepest of thoughts can be expressed in our native languages only. It is so sad that our students have to run a race with every English lad and our precious years are lost in learning a foreign language. It is indeed an eye wash that English-educated India is leading and doing everything for the nation. English medium has created a brain fog in our children putting an undue stress on them. They have become crammers and imitators. They have been rendered incapable of producing original thoughts, they have lost their power of expression and these English –educated students are incapable of infiltrating the learning to the family or the masses. The English medium has practically made our students foreigners in our own land. This English medium has cost us heavily on our vernaculars and stunted their growth.Imposing English medium on our students is one of the greatest evils of the British rule over India. It has sapped the energy of the nation, it has shortened the lives of the pupils, it has estranged them from the masses, it has made education unnecessarily expensive. If this process is still persisted in, it bids fair to rob the nation of its soul. The sooner therefore educated India shakes

itself free from the hypnotic spell of the English medium, the better it would be for them and the people.

Need for Quick Action

If the medium is changed at once and not gradually, in an incredibly short time we shall find text-books and teachers coming into being to supply the want. And if we mean business, in a year's time we shall find that we need never have been party of the tragic waste of the nation's time and energy in trying to learn the essentials of culture through a foreign medium. The condition of success is undoubtedly that provincial languages are introduced at once in Government offices and courts, if the Provincial Governments have the power or the influence over the courts. If we believe in the necessity of the reform, we can achieve it in no time.

It has been 75 years now that we have got independence and the fact cannot be overlooked that the English language has developed strong roots in India. The language has mushroomed so much that it is the second largest language spoken in our country after Hindi. In our own country we do not have one common language but India is a country full of diversities and we have had unity in diversity. All the Indian languages have a rich cultural heritage. They are the sources of our ancient knowledge and wisdom. Our scriptures are the gateways to the modern knowledge and intelligence. From astronomy to science, mathematics, architecture, medicine etc we have it encoded in our scriptures. We need to interpret the information contained in our scriptures. We need our students to refine their intellects, their perceptions through our indigenous languages which are treasure-mines of knowledge resources. In this age of globalisation where English is a widely spoken language, it is the language of information, communication and technology and hence we cannot avoid English.

Using a bilingual approach is the best way to reap the benefits of both languages. The new education policy advocates multilingualism. With three language formula, use of mother tongue as a medium of instruction at least till Std five and bilingual mode of teaching and learning, if implemented strictly in all government and private schools the situation will change in no time. In this age of technology we will have all the information and knowledge available in English and other languages in all our Indian languages. Only when there is demand, the supply will increase.

The research of Carol Benson on 'The Importance of Mother tongue based

schooling for educational quality' would prove to be a strong support in this direction. The findings are as follows:-

Advocating Bilingual Mode of Teaching and Learning

Instruction through a language that learners do not speak has been called "submersion" (Skutnabb-Kangas2000) because it is analogous to holding learners under water without teaching them how to swim. Compounded by chronic difficulties such as low levels of teacher education, poorly designed, inappropriate curricula and lack of adequate school facilities, submersion makes both learning and teaching extremely difficult, particularly when the language of instruction is also foreign to the teacher.

Mother tongue-based bilingual programs use the learner's first language, known as theL1, to teach beginning reading and writing skills along with academic content. The second or foreign language, known as the L2, should be taught systematically so that learners can gradually transfer skills from the familiar language to the unfamiliar one. Bilingual models and practices vary as do their results, but what they have in common is their use of the mother tongue at least in the early years so that students can acquire and develop literacy skills in addition to understanding and participating in the classroom. Bilingual as opposed to monolingual schooling offers significant pedagogical advantages which have been reported consistently in the academic literature (see reviews in Baker 2001; Cummins 2000; CAL 2001):

Use of a familiar language to teach beginning literacy facilitates an understanding of sound-symbol or meaning-symbol correspondence. Learning to read is most efficient when students know the language and can employ psycholinguistic guessing strategies; likewise, students can communicate through writing as soon as they understand the rules of the orthographic (or other written) system of their language. In contrast, submersion programs may succeed in teaching students to decode words in the L2, but it can take years before they discover meaning in what they are "reading."

- Since content area instruction is provided in the L1, the learning of new concepts is not postponed until children become competent in the L2. Unlike submersion teaching, which is often characterised by lecture and rote response, bilingual instruction allows teachers and students to interact naturally and negotiate meanings together, creating participatory learning environments that are conducive to cognitive as well as linguistic development.

- Explicit teaching of the L2 beginning with oral skills allows students to learn the new language through communication rather than memorization. In submersion schooling teachers are often forced to translate or code-switch to convey meaning, making concept learning inefficient and even impeding language learning, while bilingual programs allow for systematic teaching of the L2.
- Transfer of linguistic and cognitive skills is facilitated in bilingual programs. Once students have basic literacy skills in the L1 and communicative skills in the L2, they can begin reading and writing in the L2, efficiently transferring the literacy skills they have acquired in the familiar language. The pedagogical principles behind this positive transfer of skills are Cummins' (1991, 1999) interdependence theory and the concept of common underlying proficiency, whereby the knowledge of language, literacy and concepts learned in the L1 can be accessed and used in the second language once oral L2 skills are developed, and no re-learning is required. Consistent with these principles, it is possible for children schooled only in the L2 to transfer their knowledge and skills to the L1, but the process is highly inefficient as well as being unnecessarily difficult.

  Students learning can be accurately assessed in bilingual classrooms. When students can express themselves, teachers can diagnose what has been learned, what remains to be taught and which students need further assistance. In submersion schooling cognitive learning and language learning are confounded, making it difficult for teachers to determine whether students have difficulty understanding the concept itself, the language of instruction, or the language of the test.
- The affective domain, involving confidence, self-esteem and identity, is strengthened by use of the L1, increasing motivation and initiative as well as creativity. L1 classrooms allow children to be themselves and develop their personalities as well as their intellects, unlike submersion classrooms where they are forced to sit silently or repeat mechanically, leading to frustration and ultimately repetition, failure and dropout.
- Students become bilingual and biliterate. Bilingual programs encourage learners to understand, speak, read and write in more than one language. In contrast, submersion programs attempt to promote skills in a new language by eliminating them from a known language, which may actually limit learner competence in both. All of these advantages are based on two assumptions: one, that basic human needs are being

met so that schooling can take place; and two, that mother tongue-based bilingual schooling can be properly implemented. Simply changing the language of instruction without resolving other pressing social and political issues is not likely to result in significant improvement in educational services. However, because language cross-cuts race, ethnicity, gender, and poverty, even minimally implemented bilingual programs have the potential to reach those who have traditionally been left behind by L2 submersion schooling.

Challenges and how they have been confronted

Mother tongue-based bilingual schooling is seldom disputed on the basis of its pedagogical reasoning, and if decision-making were to be based solely on how to provide the highest quality education for the learner many more of the world's languages would be used in education today.

The following myths and attitudes are regularly used to challenge use of mother tongues in education, yet their false arguments are easily revealed:

- **The one nation—one language myth**

  The colonial concept that a nation-state requires a single unifying language has influenced policy-makers in many parts of the world, yet imposition of a so-called "neutral" foreign language has not necessarily resulted in unity, nor have relatively monolingual countries like Somalia, Burundi or Rwandabeen guaranteed stability. In fact, government failure to accept ethnolinguistic diversity has been a major destabilizing force in countries like Bangladesh, Pakistan, Myanmar and Sri Lanka (Ouane 2003).

- **The myth that local languages cannot express modern concepts**

  Another colonial concept is the supposed inherent worth of European languages in contrast to others, but all human languages are equally able to express their speakers' thoughts and can develop new terms and structures as needed. Léopold Senghor once illustrated this by translating Einstein's Theory of Relativity into Wolof, a lingua franca of Senegal. The difference lies in which languages have historically been chosen for "intellectualization," or development, through writing and publishing (Alexander 2003).

- **The either-or myth**

  This myth holds that bilingualism causes confusion and that

the first language must be pushed aside so that the second language can be learned. The research evidence to date shows the opposite to be true: the more highly developed the first language skills, the better the results in the second language, because language and cognition in the second build on the first (Cummins 1999, 2000; Ramirez et al. 1991; Thomas & Collier 2002). Further, there is no evidence that the L2 must be a medium of instruction to be learned well; countries like Sweden achieve high levels of L2 competence by teaching it as a subject and preserving the L1 for instruction.

- **The L2 as global language myth**

  The foreign L2 is often seen as necessary for further education, work and other opportunities, yet as Phillipson (1992) points out this has not happened in a political vacuum but is the result of deliberate promotion by powerful countries or groups of their respective languages. Meanwhile, employment in the informal sector of low-income countries involves 50 percent or more of the population and is increasing, and primary schooling is still terminal for most. The vast majority will not be integrated into the global marketplace and will have little use for the L2 (Bruthiaux 2002).

- **The myth that parents want L2-only schooling**

  The poorest and most marginalized are acutely aware that their access both to education and to the high-status language has been limited, and they have a right to expect the school to teach their children the same language that has benefited the elite. Undoubtedly parents will choose the L2 when presented with an either-or proposition; however, studies (see e.g. Heugh 2002) have shown that when parents are allowed to make an educated choice from appropriate options, they overwhelmingly opt for bilingual rather than all-L2 programs, and most bilingual program evaluations report high levels of community support (CAL 2001).

In this age of globalisation we are living in a multilingual world. India itself is a treasure house of languages. More than 19.500 languages or dialects are spoken in India. It is said that you live a new life for every new language you speak. If you know only one language, you live only once. Knowledge of language is the doorway to wisdom.

The new education policy 2020 lays special emphasis on multilingualism

and the power of languages. It mentions that mother tongue should be the medium of instruction till std five. Three language formula and bilingual mode of education is recommended.

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National Education Policy 2020:
A Mandate for Quality Higher Education in India

■ *M.K. Sridhar* and Chetan Singai***

CURRENT SCENARIO: HIGHER EDUCATION IN INDIA

The key results of the All India Survey on Higher Education 2018-19 published by Ministry of HRD (MHRD), Government of India reveals that there are 993 Universities, 39,931 colleges and 10,725 stand-alone institutions (MHRD, 2019). According to the AISHE-2019, the number of colleges per one lakh of the eligible population in the age group of 18-23 varies from seven in Bihar to 53 in Karnataka, as compared to All India average of 28. About 60.53 per cent of colleges located in rural areas and 16.3 per cent of the colleges have an enrolment of less than 100 and only 4 per cent of colleges have an enrolment of more than 3,000. The total enrolment in higher education is estimated to be 374 lakhs out, of which 49 per cent constitute female (MHRD, 2019). Currently, the Gross Enrolment Ratio (GER) is 26.3. About 79.8 per cent of the students are enrolled in the undergraduate programs, out of which maximum number is enrolled in the BA program, i.e., 39.5 per cent of the total students (*ibid*.). Around 47,427 international students from 104 different countries are studying in India. The total number of teachers is 14,16,299 (*ibid*.). The Pupil-Teacher ratio (PTR) in Universities and Colleges is 29; nearly 41,000 students were awarded PhD degrees in 2018 (*ibid*.).

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As India moves towards becoming a true knowledge society and because of the imminent fourth industrial revolution (, 2017), the Higher Education System (HES) in India faces several challenges. Some of the key challenges are the fragmentation of the system; too many silos; too much early specializations; lack of access in socially-economically disadvantaged areas/sections; lack of autonomy for teachers and institutions; sub-optimal governance and leadership; a regulatory system, which allows fake colleges on the one hand and constrains excellent institutions on the other. All these challenges would have a negative bearing on the quality of institutions resulting in a system that is not very qualitative.

QUALITY THRUST IN HIGHER EDUCATION

The National Education Policy-2020 (NEP-2020) is grounded on the principles of Access, Equity, Quality, Affordability and Accountability (Ministry of Education, 2020). It highlights the fact that education in the country must be considered — a single organic continuum from Early Childhood Education to Higher Education (*ibid.*). In the decades since Independence, we have been mainly preoccupied with issues of access and equity and unfortunately, have dropped the baton regarding the quality of education (Ramaprasad *et al.,* 2016).

In this backdrop, the NEP-2020 provides a 'new' and 'forward-looking' vision for India's HES and its quality. The policy emphasizes on:

- Moving towards a more holistic undergraduate education;
- Enabling faculty and institutional autonomy;
- Revamping of curriculum, pedagogy, assessment and student support;
- Reaffirming the integrity of faculty positions and institutional leadership;
- Establishing a National Research Foundation (NRF);
- Enabling increased access, equity, and inclusion through a range of measures, including greater opportunities for outstanding public education;
- Moving towards a more multidisciplinary undergraduate education;
- Providing all infrastructure and learning materials accessible and available to learners with disabilities;
- Ensuring governance by independent boards with autonomy;
- Ensuring a substantial increase in public investment in education by

both the Central government and all State Governments;

- Enforcing 'light but tight' regulation by a single regulator for higher education; and
- Moving towards a HES consisting of large, multidisciplinary universities and colleges.

In this backdrop, the NEP-2020 proposes to revise and revamp 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.

Quality Universities and Colleges

Given the requirements of the 21st century, quality university or college education must develop competent, well-rounded, and creative individuals. It must enable students to study one or more specialized areas of interest at a deeper level, and simultaneously build character, ethical and constitutional values, intellectual curiosity, and the spirit of service. Quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to society and the nation. It must also prepare students for more meaningful and satisfying lives and work roles and enable economic Independence.

The NEP-2020 recognizes the need for large and multidisciplinary universities and colleges, to address the challenge of the fragmentation of higher education. Such a system will enable students to become well-rounded, ensure holistic growth, optimally develop both sides of their brains (artistic/ creative and analytic), and induct flexibility and dynamism into their learning programmes. The system will help to evolve a robust culture of research and innovation in universities and colleges.

The purpose of quality of higher education is more than just creating additional and significant opportunities for the employability and employment of individuals. It must ensure a more vibrant, socially engaged, and cooperative communities and a happier, cohesive, cultured, productive, innovative, and prosperous nation.

BETTER REGULATION AND GOVERNANCE

Improving quality is one of the areas of interest, as highlighted by most of the erstwhile policies and reports on higher education (Tilak, 2013). However, there have been limited changes in the overall quality, creating a gap between the state-of-the-aspiration of the policies and the state-of-the-practice within

Higher Education Institutions (HEIs). Arguably, such a gap arises due to ineffective the regulatory ecosystem, which limits autonomy, innovation and effective outcomes (Altbach, 2009). To overcome such limitations, overhauling the regulatory system is inevitable and the need-of-the-hour. The NEP-2020 provides a detailed proposal to reform the regulatory system by establishing four autonomous institutional structures carrying out four essential functions of regulation, accreditation, funding, and academic standard-setting under one umbrella institution - the Higher Education Commission of India (HECI). Such a move not only brings professionalism and expertise into each of the function but prevents the vested interest if concentrated into one regulatory body as such. Further, the NEP-2020 recommends strengthening and empowering the Central Advisory Board of Education (CABE). The CABE will develop, articulate, evaluate and revisit the vision of education in the country on a continuous basis, in close collaboration with the Ministry and the corresponding apex bodies of States. It shall also create and continuously review the institutional frameworks that shall help attain this vision.

At the micro-level, every higher education institution needs to have an independent board with an Institutional Development Plan (IDP). According to NEP-2020, all HEIs shall prepare their IDPs with the joint participation of Board members, institutional leaders, faculty, students, and staff. The IDPs to illustrate the short-term, mid-term and long-term goals of institution to achieve excellence in teaching, research, and service. For example, the IDPs are supposed to provide a roadmap to attain the highest level of accreditation over the next 15 years and thereby eventually aim to function as self-governing degree-granting institutions/clusters.

NEW ACADEMIC ARCHITECTURE

The NEP-2020 recommends that all undergraduate and graduate programmes be developed on an underlying foundation of holistic education, which enhances the intellectual, social, ethical, analytical, and aesthetic capacities of all students. Such a transformation will help connect university research and graduate programmes with holistic ethos to conduct higher quality, more relevant, and interdisciplinary research. It places the highest emphasis on moving to large multidisciplinary universities with autonomy and flexibility. The ancient Indian universities of Takshashila, Nalanda, Vikramshila and Vallabhi had thousands of students from India and the world studying in such vibrant multidisciplinary environments. Similarly, modern universities today, amply demonstrate the great success that such large multidisciplinary research

universities can bring. According to the NEP-2020, the main thrust of this policy regarding higher education is to end the fragmentation of higher education by transforming higher education institutions into large multidisciplinary universities, colleges, and HEI clusters/Knowledge Hubs by 2040.

To this end, the NEP-2020 recommends three types of institutions based on a difference in focus:

- Research-intensive universities;
- Teaching-intensive universities; and
- Degree-granting autonomous colleges.

The most salient marker for these categories of institutions will be the focus of their goals and work. To initiate such efforts towards such institutions, a stage-wise mechanism for granting graded autonomy to colleges, through a transparent system of graded accreditation, will be established. Colleges will be encouraged, mentored, supported, and incentivized to gradually attain the minimum benchmarks required for each level of accreditation. The NEP-2020 envisages that over a period, every college would develop into either an Autonomous degree-granting College or a constituent college of a university. With appropriate accreditations, Autonomous degree-granting Colleges could evolve into Research-intensive or Teaching-intensive Universities, if they so aspire.

EXCELLENCE IN TEACHING AND RESEARCH

According to the NEP-2020, teachers and faculty are at the heart of the learning process – their recruitment, continuous professional development, positive working environments and service conditions are an important aspect of quality and excellence in higher education. The policy further states that it is critical to empower the faculty with high competence and deep commitment to energize them for excellence in teaching and research. It recognizes that the most crucial factor for the success of higher education institutions is the quality and engagement of its faculty. Hence, the NEP-2020 makes critical interventions in reforming the current state-of-affairs to energize and engage faculty members towards excellence in teaching and research. It recommends:

- All HEIs will be equipped with basic infrastructure and facilities. Every classroom to have access to the latest educational technology that enables better learning experiences;

- Teaching duties to be rationalized and to enable effective teacher-student ratio so that there is adequate time for interaction with students, conducting research, and other university activities;
- Provide utmost autonomy to faculty to design their own curricular and pedagogical approaches within the approved framework, including textbook and reading material selections, assignments, and assessments;

  Build appropriate incentives through rewards, promotions, recognitions, and movement into institutional leadership. Whilst hold faculty accountable for not delivering basic duties/functions;
- Implement a permanent (tenure) employment track for university staff, including faculty.
- To drive excellence, HEIs will have clearly defined, independent, and transparent processes and criteria for faculty recruitment; and
- Identify and recognize excellent faculty with high academic and service credentials as well as demonstrated leadership and management skills for leadership positions within the institution.

The NEP-2020 envisions a higher education ecosystem wherein each faculty member is happy, enthusiastic, engaged, and motivated towards advancing her/his profession and institution towards quality and excellence, by effectively implementing the above recommendations.

CATALYZING RESEARCH AND INNOVATION

The NEP-2020 has a strong emphasis on catalysing and energizing research and innovation across the country in all academic disciplines with a focus on state universities and colleges. At the systemic level, research and innovation make a substantial contribution in enhancing the state-of-the-art research ecosystem of international repute. Such an ecosystem is critical for the HEIs to enhance their research productivity. This is an important consideration for international and national rating, ranking and accreditation process. At the macro level, such an ecosystem is central to growing and sustaining a large and vibrant knowledge society. Research and innovation at education institutions in India, particularly those that are engaged in higher education, is critical.

To make this a reality, the NEP-2020 envisions establishing a National Research Foundation (NRF). Its overarching goal is to build a culture of research to permeate through the universities. The overarching goal of the NRF will be to

enable a culture of research to permeate through our universities.

The primary activities of the NRF will be:

- Fund competitive, peer-reviewed grant proposals of all types and across all disciplines;
- Seed, grow, and facilitate research at academic institutions, particularly at universities and colleges where research is currently in a nascent stage, through mentoring of such institutions;
- Act as a liaison between researchers and relevant branches of government as well as industry, so that research scholars are constantly made aware of the most urgent national research issues, and so that policymakers are constantly made aware of the latest research breakthroughs; so as to allow breakthroughs to be optimally brought into policy and/or implementation; and
- Recognize outstanding research and progress.

In sum, the NRF will provide a reliable base of merit-based but equitable peer-reviewed research funding which will help to develop a culture of research in the country through "suitable incentives for and recognition of outstanding research.

CONCLUSION

The NEP-2020 addresses the quality of higher education in its entirety and in a holistic manner; not in an ad-hoc or piecemeal manner. Policy recommendations range from a systemic level to an institutional level. The policy considers quality issues in higher education in an inclusive manner. Let us hope and wish that the proposed NEP-2020 ushers in an era of quality revolution in the universities and colleges of India, which is the crying need of the hour.

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Some thoughts on Multidisciplinary Education for India

■ *Yugank Goyal*

Abstract

The aim of this chapter is draft a framework for multidisciplinary learning in the context of higher education in India, with particular reference to the NEP. I distil the essence of multidisciplinarity as espoused in the NEP and justify its importance. I dwell briefly on current state of multidisciplinary thinking in Indian higher education ecosystem, and then propose ideas for cultivating such an approach. In doing so, I will also lay down certain operational mechanisms which can be implemented in a decentralized manner by respective colleges/ universities for developing a multidisciplinary culture in their spaces.

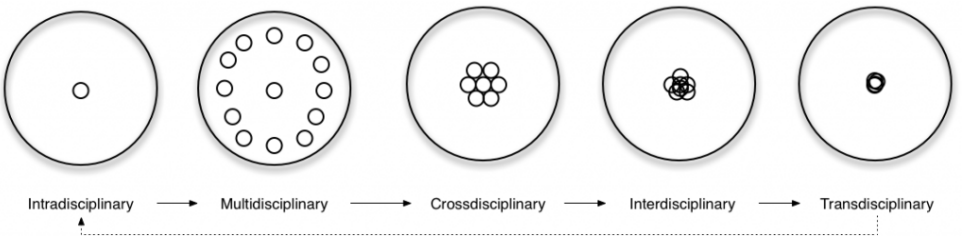
Introduction:
Concept of Multidisciplinary Education and the NEP

Perhaps let's get the meaning of the term out of the way as soon as we begin. In general parlance, multidisciplinary and interdisciplinary are often used as synonyms, even though as scholarly wisdom proposes, they are not. In fact, a third term, called transdisciplinary has assumed some importance now. It is as if the term itself is evolving.

Evolving is a good way to put it. Multidisciplinary engagements are the starting points, where several, seemingly unconnected disciplines are taught to the cohort of students. The next level is interdisciplinary education, where

the disciplines are blended together to form a new approach. Transdisciplinary goes a step beyond, where the 'method' of one discipline is used to understand the problem in another discipline. Jensenius (2012) offers a great illustration below.

This means, when a student majoring in philosophy studies data science, it is multidisciplinary. It becomes interdisciplinary when the subjects start losing their boundaries, and say, philosophy of technology is being studied. Area studies (like South Asian studies or feminist studies) is one result. A transdisciplinary approach will fuse the two disciplines in such a way that you have, say, bioinformatics emerging. The field of sustainability is another example.



For most part, Indian higher education does not – and need not make these differences so explicit. Nor does the NEP. In the entire document, 'multidiscinplinary' is invoked 16 times, while 'interdisciplinary' thrice. A careful read of these instances indicate that the contexts are similar. The principles of the policy indicate clearly that multidisciplinary-interdisciplinary complex is essentially, a holistic education across science, social science, art, humanities and sports.

This is explained in Section 0.7 of NEP, where guiding principles are enunciated. Chapter II on higher education institutions (HEIs) carries the bulk of references to multidisciplinary education. Sections 9.1 and 9.5 are generic encouragement for universities to aspire to become multidisciplinary; Sections 10.3, 10.6, 10.11 and 10.14 dwell on restructuring and consolidation of all existing HEIs to become multidisciplinary by 2040 – even the single subject universities will need to become multidisciplinary by 2040. Sections 11.1, 11.5, 11.6, 11.7, 11.10, 11.11, 11.13 cast the imagination of multidisciplinary in the frame of holistic education, which is an important lens to understand the essence of the concept as it exists in the NEP. Here, the policy reminds the importance of liberal arts tradition of India in Nalanda, Takshashila to help us imagine what multidisciplinary education truly means – 64 *kalas* in our tradition. In fact,

the policy suggests that the model public universities for holistic education, at par with IITs, IIMs, etc., will be called MERUs (Multidisciplinary Education and Research Universities) and they will set the highest standards for holistic education across India. This is a big burden to carry and an important one. Further, the move towards creating 'Model Multidisciplinary Colleges' needs to be 'swift' and with a focus on 'research and innovation.' Later, Sections 15.1, 15.4-15.6 are about multidisciplinarity in teachers' education, and interestingly, the concept returns in Section 23.10 when discussing courses in technolog ('AI+X') could be a field of study. 'Interdiscipinary' appears quite interchangeably.

What do we distil out of these ideas? Quite clearly, the policy considers multidisciplinary and interdisciplinary with no specific distinction. Its purpose is to allow flourishing of knowledge without cutting them into disciplinary silos. In general, the impression from the undertones of the policy is to enable students to access courses from different disciplines, and research to build synergies across methods and problems. Henceforth therefore, I will use the term multi/inter/trans-disciplinarity interchangeably in this chapter.

Background of multidisciplinary education

Brief History

Contrary to popular perception, strict disciplinary divide in higher education is a recent invention. In fact, all social sciences emerged in a pre-disciplinary context---as Calhoun (2001) notes, 'Hobbes and Locke could integrate politics and psychology without need for an interdisciplinary field of political psychology. Vico and Montesquieu informed anthropology, history, sociology, and political science in equal measure ... Adam Smith was not one to distinguish theoretical from applied economics, just as he saw the intimate connections of both to the "moral sentiments" and other concerns of what would later be called psychology and sociology.'

All this changed in late nineteenth and early twentieth century when major departments were created in America and Europe, partly by dividing existing disciplines. For example, in America, economics was stripped off from history, which was the parent discipline. Later, economics ejected sociology from itself, and political science was branched out of history again (Ross 1991). Various disciplines around the world acted as repositories of accessible knowledge

and had no social function. Professors only viewed them as vertical career progression, ascending through different departments and therefore teaching in various disciplines. There is little doubt that the disciplines were relatively unimportant until the end of eighteenth century. What really ossified them in academe are three reasons: (a) the industrial revolution and its demand for a suitable workforce, (b) new data and information popping out of each disciplinary ideas, and (c) transplants of American disciplinary models across the world.

Abbott (2001) calls 'dual institutionalization' Disciplines act as macrostructure of labour market for faculty thereby embedding careers within discipline rather than within the same university. At the same time, disciplines constitute microstructure for each individual university. Due to this duality, no university could have challenged the disciplinary system without eroding the career prospects of its own graduates. In other words, disciplinary system is perpetuated by placing university hiring practice within the system. This view is also shared by Turner (2000) who maintains that disciplines are economic cartels that create and regularize internal labour markets of higher education.

Contemporary Rise of Multidisciplinary Thinking in Education

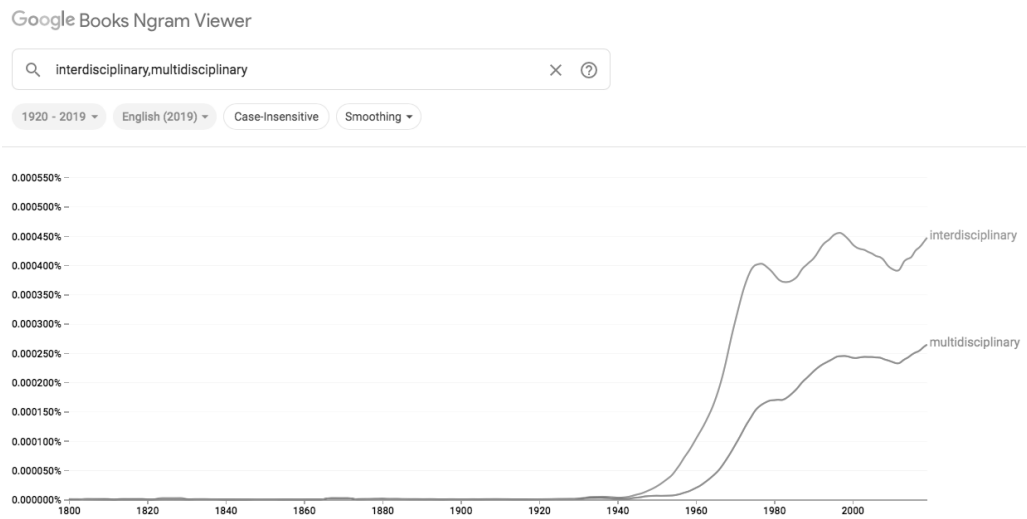
The world is changing rapidly on this front. Global universities and higher education research is unequivocal about the need of multidisciplinary education. Evan as early as 1970s, policy researchers and educators had become increasingly dissatisfied in restricting the dynamism of knowledge to the oldand rigid disciplinary boundaries (Miller 2010, p. 336). Topics that dwell on life experiences such as black studies, women's studies, ethnic studies in 1960s-70s were first triggers, followed by the rise of problem-solving approach in crime and environment domains (Klein 2005, pp. 77-8). Post-World War II, heavy funding from government on research oriented towards technology, engineering, and medicine helped these fields to attract an interdisciplinary mode of problem-solving and gave rise to bioengineering, environment studies, nanotechnology, plasma physics, atmospheric chemistry, and the like (Miller 2010, p. 337).

The change has been swift and since US is the leading space for global, world class universities, it may be useful to look at its record. For instance, the National Centre for Education Statistics data shows that multi/interdisciplinary Bachelor degrees conferred increased from 6,324 in 1970-71 to 42,228 in 2010-11. During the same period, at Masters level, the total number of degrees doubled,

while multi/interdisciplinary degrees conferred increased by more than six times (from 924 in 1970-71 to 6,748 in 2010-11). Multi/interdisciplinary doctoral degrees also increased more than six-fold.

Another way to measure the penetration of interdisciplinarity is to look at the epistemic location of research centres of the universities. Jacobs and Frickel (2009, pp. 53-54) estimate that there are around 100 research centres per leading American university, and therefore there are more often, more research centres than university programmes in a good university. When their content is examined, it was found that vast majority of these centres were perceivably interdisciplinary. The authors refer to a survey (p. 46), where 70% of 1,353 American college and university faculty members preferred interdisciplinary knowledge to knowledge obtained in single discipline. In this way, they appear to serve as 'organizational counterweight to academic departments,' (ibid.) creating research at the frontier which comfortably slips into the other disciplines' domain and producing an alloyed body of research and knowledge.

Further, even scholarly journals are increasingly becoming multidisciplinary. While by the 1950s, such interdisciplinary journals were rare, by the 1980s, they were attracting scholarship from eminent academics (Klein 2005, p. 74). To estimate the interdependence between disciplines, Van Leeuwen and Tijssen (2000), in their classification of 2,314 journals in 119 disciplinary categories find that 69% of references are cross disciplinary. Infact, a Google Ngram of 'multidisciplinary' and 'interdisciplinary' show a rising graph since 1970s, shown below.



Studies in interdisciplinarity can easily flourish through multicultural curricula and inclusive pedagogies. In addition, the emergence of the Internet and instructional technologies are indicators of encouraging signs for the growth of interdisciplinarity. In culturally diverse countries like India, which have also achieved a very high degree of Internet and information technology penetration, interdisciplinary approaches should be natural occurrence.

Multidisciplinarity in Indian HEIs

Records indicate that multidisciplinary thinking flourished in ancient Indian universities like Nalanda, Takshashila. This may have gone through its own shifts over time but in recent past, colonialism forced India to create uniform education structures with pockets of elitism (Seth 2007; Basu 2002, p. 167-86). The reason East India Company began investing resources on higher education in India was to supply itself with English educated small class of Indians who could act as in Macaulay's words, 'interpreters between us and millions who we could govern; a class of persons Indian in blood and colour but English in taste, opinions, in morals and in intellect' (Sharp 1920, p. 22). Hence, the curriculum was biased in favour of language and humanities but ignored science and technology (Jayaram 1990, pp. 45-59). This was because of exclusive employment of British personnel in departments of engineering, irrigation, railways, ordnance factories, and posts and telegraphs. There was little provision for vocational training since learning English was in a way, considered to be the aim of education. Mechanical lessons imparted on English encouraged people to memorize rather than think (Basu 1982, pp. 65-6), which killed creativity and thirst for interdisciplinary engagements. Such institutional implants uprooted the indigenous concept of education and created pockets of concentrated and 'modern' disciplines.

Government's lack of interest and poor internal governance has brought higher education in India to a dismal state today. Kapur and Mehta (2008) have argued that the crippling state system and weak governance of regulatory agencies has resulted in a de facto privatization of higher education, which in turn has failed the promises of education. While numbers of colleges seem to be impressively increasing, parameters of quality are depressing.

In 2014, with my student Preksha Malik, I went through the websites of 70 central and state universities from across India, and drew information on the degree courses offered in these institutions. The choice of the 70 universities was governed by the aim to represent universities in most states and of varying age established from 1882 (Punjab University) until 2010 (Karnataka Sanskrit

University, Bangalore). We estimated that of all the courses, around 8.3% courses are interdisciplinary, while the remaining 91.7% fall into the standard disciplines. Almost two-thirds of these universities have information related to students enrolled in their degree programmes. Estimating their numbers, we realize that for latest year that they have uploaded the data, merely 5.3% of students enrolled in the interdisciplinary degree programmes, while the rest chose to stick to standard disciplines. Not all of these universities have research centres (and many of them do not display they information on their rudimentary websites), which is equally disappointing. But from those that have it, we found only 16.8% of them having a multi/interdisciplinary research centre.

The lack of multidisciplinary approaches to higher education in India is also because of weak research output of Indian universities. Multidisciplinarity is the product of research across disciplines, which in turn builds on the state of research ecosystem in a university. In India, the latter itself has a disappointing record. In a study conducted by Thomson Reuters, published in a leading national daily, it was found that merely 3.5% of the global research output was from India, with the highest figure ceiled at 6.5 per cent (chemistry), and only 0.6 per cent in social sciences. The QS World Education Rankings 2020 features only three Indian institutions in World's Top 200. The ranking uses the parameters of academic reputation, citation per faculty, faculty-student ratio, employer reputation and international faculty and students to give a score. In the Times Higher Education Rankings 2020, not even a single Indian university figured in the top 200.

The problem is coupled by absence of qualified teachers. While exact estimates are difficult on account of lack of systematic official surveys, shortage of faculty in Indian universities is deemed to be around 35-40%. In 2011, the Task Force on 'Faculty Shortage and Design of Performance and Appraisal System' coordinated by University Grants Commission (UGC) reported a shortage of more than 300,000 in the system and estimated the number to increase by 100,000 faculty every year during coming decade. From several accounts, this puts the figure of shortage at 54%, pushing the faculty-student ratio to 1:20.9 from the recommended 1:13.5. Faculty members are cornerstones of multidisciplinary research and teaching in any university. During shortage, teaching responsibilities swell and they are saddled with administrative work, leaving little room for creativity and interdisciplinary discourse.

Steps to Infuse Multidisciplinary Thinking in Indian HEIs

Funding Structures

A major change can take place if grants from government are made to projects that exhibit multidisciplinary promise. Larger grants should be made to projects and study programmes that involve faculty members from various disciplines, as well as interdisciplinary topics. Most grants are specified for measurable managerial and administrative intervention that the university makes, and hence these grants are made strict. This needs to change. Unless there are research reward schemes given on the basis of citations, publications into interdisciplinary journals with high impact factor, these funding mechanisms will not aid to development of multidisciplinary thinking. Individual grants could be given on the condition of securing co-authors from other disciplines and looking at the extent to which the proposed project is multidisciplinary in nature. Grants could be given to a team of scientist/scholars from different universities and different disciplines --something usually not done. One of the ways in which Western institutions have emerged as the most prestigious research units in the world is through a very sophisticated style of funding research that rests on the principles of academic freedom, long term benefits and openness to new ideas.

Creating multidisciplinary programmes

Suggestions on altering funding mechanisms from the government are akin to fixing a light bulb in a house without power. The main recommendation of this chapter hinges on a bottom-up approach---where universities themselves become engines of interdisciplinary changes, rather than it being dictated from New Delhi. Such intellectual construction crucially rests on administrative engagements, crafted by visionary and entrepreneurial Deans/Directors and Vice Chancellors. They---as thought leaders of today---need to devise mechanisms by way of which interdisciplinary programmes can be started, focusing on the development of problem solving skills of the students and the enhancement of their utility in the market. Creation of programmes must be preceded by establishing research centre(s) on the multidisciplinary approach sought. These centres must be made nodal and autonomous departments for producing research, courses, advocacy, and industry-linkages for few years. Once established and branded, they can spin off and become centres of multidisciplinary excellence, and nurture similar centres in other universities.

The multidisciplinary programmes could borrow faculty from various departments and instruct students in multiple disciplines. Incentives to faculty

for working in an interdisciplinary centre could be given by offering them joint appointment in the research centre and department. The centre directors should have a representation in the Senate and Governing Body Meetings, to lend seriousness to their endeavours. The faculty and students associated with such centres and programmes must be empowered to undertake active interest in practices emanating from their efforts. For instance, they could start a newsletter, which can later culminate into a student-edited journal. They, in their own identity as interdisciplinary entities, could consult government's agencies in varying capacity, in addition to other NGO-related policy initiatives. A working paper series where problems specific to the region/issue are addressed through the newly evolving methodology, could be put up on web sites and libraries. Improving visibility through such initiatives will draw more innovative means of bolstering the centres/programmes, as well as increase market visibility.

Currently, several think tanks and research organisations work in India, which could immensely benefit from knowledge creation of this kind. Benefits could come in the form of students of interdisciplinary centres/programmes interning in these organizations or working with these organizations on joint research projects. The collaborative arrangements have a great deal of fertility, if viewed in the international context. Universities from the US in particular, and the West in general, are aggressively looking forward to set up broad range of academic ties with Indian institutions at multiple levels. They not only aspire to be part of the economic vigour that India has shown in last decade, but also want to tap the burgeoning Indian middle class which has increasingly started going abroad for higher studies (Kapur and Mehta 2008, p. 126). Interdisciplinary research centres and programmes can become the linking bolts through which the collaborations can be hinged. Since multidisciplinary programmes are more robust and sophisticated abroad, India can greatly benefit from the knowledge spill overs that will follow.

Cultivating Interdisciplinary Scholars

Students and faculty members working on multidisciplinary ideas must be viewed with greater recognition. One needs to understand that the higher education ecosystem is not naturally designed for multidisciplinary thinking as it is. For instance, despite the multidisciplinary thinking possessing immense novelty, holistic approach, broad networks, exciting field experiences, community connections, and evolving discourses; the career-related difficulties surface in the form of reduced recognition by disciplinary scholars, fewer peer-reviewed journals, light infrastructure, fewer honours and disadvantages in

promotion (Pfirman and Martin 2008, p. 391). By checking these disadvantages that multidisciplinary academics face, we can enhance the perception by adopting university specific culture that enhances this recognition. Faculty promotion could be based on publications and teaching on multidisciplinary subject areas, or when co-authors come from different disciplines. Right now top !% Indian universities produce a list of high impact factor, peer-reviewed scholarly journals categorized in various grades indicating quality, and encourage faculty members to publish in them. The interdisciplinary journals in those list could be pulled out and a new grade could be created for greater recognition of multidisciplinary work. Given that fewer journals cater to interdisciplinary research, more weightage should be given to them.

More interactions between scholars of different disciplines

Cultivating such scholars through valuing their linkages in diverse fields is a good start. Lee and Bozeman (2005) show that scholars typically spend 50% of their time working with members of their own department, 25% with outside collaborators, 15% working alone and 10% with others. Clearly, there is a lot of scope for interdisciplinarity to be ingrained in the university's social fabric. Since interdisciplinary scholars work with even broader scale of communities, they should be encouraged to lecture and debate with disciplinary scholars. This will not only make the former more rigorous, but also raise consciousness in the latter of how immaterial her problem is in the larger context of social challenge that is being addressed. Interdisciplinary scholars have a synthesizing skill, and even if it comes at the cost of deepest engagement with the issue, the benefits of having bird's eye view of a complex problem greatly outweighs the costs.

One way of doing it is to create 'Conversation Series' between faculty members of different disciplines, which can be institutionalized. So two faculty members belonging to two different disciplines debate and discuss an issue, and lay out their discipline's literature on the topic and major findings. The diverging outlook on the same issue could be mapped over a range of issues and the conversations could be published in form of a book. Students can be greatly inspired by attending these sessions or reading those commentaries.

Another way is to allow faculty offices to be shared by faculty members coming from different disciplines (if the offices are indeed shared of course). Simple physical sharing of space may churn out interesting, multidisciplinary ideas that can become part of a longer discourse.

Philanthropic Initiatives

Injecting interdisciplinarity into the broken system of India's university education will be like loading an old gun with new bullets, which may not fire accurately. Hence, the reformation of university system is an urgent priority. One way in which this could be done is by encouraging private philanthropic initiatives. The philanthropists need to be attracted to the social sector. The problem is that bureaucratic and political forces have hijacked the meaningful agenda of earlier philanthropists in India. Most premier private universities in the world (including Harvard, Stanford, and Yale) emerged as private philanthropic initiatives. Meaningful donations can be made only by the most affluent, since it is only those who enough can afford to give some of it back, without the need to look for returns. But for this to happen, governments need to create suitable frameworks to design fertile grounds for breeding of money and intellectuals. In such structures, a necessary ingredient will be that the statutory power of the university be vested in university officials and not in the sponsoring body. And no one from the sponsoring body should be taking university office. The examples of Jindal, Ashoka, Azim Premji, Krea, FLAME University are cases in point. These universities are far more interdisciplinary than a vast number of other government institutions combined. A good metric to assess their performance is to see the peer-reviewed publications coming out of these universities. For such private, well-meaning projects, multidisciplinary approaches will bloom without external support.

Multidisciplinary Approach to begin early

One needs to understand that while team-led multudisciplinary approach can be cultivated in a relatively short term, interdisciplinary integration in a single mind is a long-term process. To nurture minds that have a synthesizing ability, they need to be identified young. Hence, students should be taught multiple disciplines from an early age, and instructed not only about the diverse ways of thinking, but also about crucial methodologies involved. This way, a student gets sensitized towards problems, issues and concepts that would lie outside her specialized domain. This creates a rare individual able to appreciate complex issues at hand with greater ease and could also develop leadership potential. Four year undergraduate programmes and NEP's emphasis on holistic education is the key. Foundational courses like language, arts, commerce, science, mathematics, culture, and civilization, governance, and citizenship can propel multidisciplinary thinking amongst students in a big way. Adopting more liberal studies framework can be meaningful and powerful. Over here, care has to be taken that multidisciplinary thinking emerges out of and 'Indian' vision of liberal arts and not the western one.

New Pedagogies to encourage multidisciplinary thinking

A typical classroom interaction in an Indian (or even western for that matter) higher education institution is that of one teacher talking to a number of students. Unless the teacher is trained to think and teach multidisciplinary topics, it would almost always end up being a very discipline-oriented class. We could reverse this in two ways to encourage multidisciplinary thinking. First, we could ask students to read and come and pose questions (a flipped classroom so to speak). Since students are reading multiple subjects everyday unlike their teachers, they are more likely to come up with multidisciplinary doubts. The teacher need not answer them if she cannot, but these doubts and questions need to be put on the table and their multidisciplinarity need to be recognized. Secondly, a class could very well be taken by two teachers perhaps. Both of them are trained in different disciplines and will therefore talk to students about the same topic in terms of how their own discipline views the ideas being discussed in the topic. These efforts can go a long way not only inspiring young minds to take up multidisciplinary thinking but also forge long term pedagogical connections between teaches coming from different disciplines.

Declaring the efforts taken towards multidisciplinary thinking

Each college or a university could be mandated to produce a note on the level of multidisciplinary outlook it has adopted or implemented. This will force many of them to at least think in this direction. The document should not have any consequential goal, rather it should serve as an information sharing exercise, for incoming students and prospective faculty. Just the act of revealing what multidisciplinary activities are taking place in the institution will push them to think creatively about this. So for instance, if the institution has started a multidisciplinary degree programme, a multidisciplinary research project, hired faculty members with multidisciplinary background, or undertaken multidisciplinary classes, it should be documented. This note should not be more than 2 pages long (longer notes invite superfluous and verbose paragraphs which beat about the bush), and the same should be displayed on the institution's website. Over time, this page may grow and indicate rising multidisciplinary approaches being taken in the institution. More importantly, these webpages can become a ready-reckoner or ideas-inventory of sort for other institutions to emulate.

Conferences, Workshops that are multidisciplinary

Higher education institutions could organize seminars, workshops and conferences where two or more departments are jointly producing the scholarly event. This will encourage choosing conference themes that cut across vertical silos of disciplines and more and more scholars will hear the point of view of their colleagues in other departments. In major universities, two different faculties should organize such workshops.

Transplanting scholars from other departments

Connectedly, faculties could host scholars from outside their disciplines for a semester or a month who teaches in that faculty her own subject. For instance, a law department invites an economist to take a few seminar classes in the faculty. This scholar introduces students of law to economics and lets the students appreciate the linkages. In doing so, she also gets closer to law herself. Such temporary transplanting of teachers and ideas from one department to the other could go a long way in building multidisciplinary temperament. At present, universities and colleges hire teachers either in ad-hoc manner or for permanent position. But these positions are fairly immobile. The teacher hardly leaves the halls of her department or college ever. This must change. Knowledge needs to flow to flourish. Constraining it within a premise is not only harmful for the knowledge holder but also for the knowledge itself. Its growth is conditional on its spread, and particularly spread in unchartered waters.

Mandate arts-humanities to science-technology students and vice versa

A major shift can be witnessed if the students majoring in arts or humanities disciplines are mandated to draw some credits from science and technology courses, and the other way round. The latter often takes place, when students in IITs for instance take up some humanities subject, but the former hardly does. There is a need to allow for courses like mathematical thinking, scientific and deductive proofs, and even technological processes to be explained to the arts and humanities students. The fact that a vast number of technologists often end up becoming social science experts or general managers indicates the high impact social science or management thinking has had on their otherwise technically trained minds. This needs to be adequately nurtured, both ways. A simple credit allotment from other departments scheme can help address this issue. An additional benefit of this would be that students will also learn their own innate interests early on, and switch careers and disciplines.

Conclusion

The chapter does not in any way claims that disciplines are redundant and that disciplinary knowledge must go. What the chapter purports is to lend an alternative paradigm of understanding the way we teach ourselves, and allow diversity in thinking processes. The plurality and diversity of India leaves us with no choice than to adopt multidisciplinary thinking. In fact, I have often claimed that the reason why many Indians grow up to be brilliant managers globally is not necessarily because of their educational training, but because growing up in India forces us to be multidisciplinary in how we think. Our experiences outside the classroom are enormously heterogenous, which lends an irreversible maturity to how we view the world.

Karl Popper said in 1963, "We are not students of some subject matter, but students of problems. And problems may cut right across the borders of any subject matter or discipline." Indeed, it is time we build classrooms and research projects that celebrate multidisciplinarity. NEP guides us in this very direction. The future of not just higher education but of employment, growth and economies is built on the edifice of multidisciplinary thinking. The seeds of this thought must be sown in our universities today.

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Impact of nep 2020 on Medical Education

■ *Dr. Kishore*

INTRODUCTION

Education plays a pivotal role in realizing the full potential of an individual, constructing a peaceful and just society and thereby forming a well-developed self-sufficient nation. India will have the highest population of young people in the world over the next decade and our ability to provide high-quality educational opportunities to them will determine the future of our country. The pursuit of knowledge, wisdom, and truth was always considered in Indian thought and philosophy as the highest human goal. The aim of education in ancient India was not just knowledge acquisition for preparation of life in this world, or life beyond schooling, but for the complete realization and liberation of the self. World-class institutions of ancient India such as Takshashila, Nalanda,Vikramshila, Vallabhi, set the highest standards of multidisciplinary teaching and research and hosted scholars and students from across backgrounds and countries. The Indian education system produced great scholars such as Charaka, Susruta, Aryabhata, Varahamihira, Bhaskaracharya, Brahmagupta, Chanakya, Chakrapani Datta, Madhava, Panini, Patanjali, Nagarjuna, Gautama, Pingala, Sankardev, Maitreyi, Gargi and Thiruvalluvar, among numerous others, who made pioneering contributions to world knowledge in diverse fields such as mathematics, astronomy, metallurgy, medical science and surgery, civil engineering, architecture, shipbuilding and navigation, yoga, fine arts, chess, and more. Indian culture and philosophy have had a strong influence on the world. These rich legacies to world heritage must not only be nurtured and

preserved for posterity but also researched, enhanced, and put to new uses through our education system (Roy, 2020)

Medical education in post-independent India faces significant challenges. These include the rapid, asymmetric rise in the number of medical schools, the questionable validity of student selection policies, a curriculum that is far removed from national health care requirements, and declining quality of teaching in medical schools. Six decades after independence, educationists have still been unable to convincingly shrug off the colonial yoke. Strangely, the curriculum followed by medical trainees has not been fundamentally altered since the days of the Raj. The traditional ways of teaching have continued. There is comfort in continuing with tradition and a reluctance to change. Several calls for curricular reform have been made since independence. In the mid-1970s, the Shrivastav Committee advocated reorientation of medical education by national priorities and needs. In 1986, the Bajaj Committee called for the establishment of an educational commission for health sciences. It also noted that medical school faculty, though efficient in their clinical specialties, were deficient as educators(Anshu & Supe, 2016).

The Ministry of Education recently replaced the 34-year-old National policy on Education (NPE), framed in 1986, with the new Education Policy of 2020 (NEP 2020). The **New Education Policy** (NEP) aims at universalization of **education** from pre-school to secondary level. Post-Independence, India has had three education policies. The first policy was formulated in 1968, in which major emphasis was on compulsory education for children up to the age of 14. Next, the second NPE was introduced in 1986. The major emphasis of the second NPE was to remove the disparity between various social groups. While the 1986 policy emphasized on achieving uniformity of education across social groups, it did not account for the competitive global landscape, which became important with the beginning of the globalization of the economy post 1991 reforms. Now, NEP 2020 is an attempt to balance local and global human resource needs of the growing Indian economy with particular emphasis on the development of the creative potential of each individual. It is based on the principle that education must develop not only cognitive capacities - both the 'foundational capacities 'of literacy and numeracy and 'higher-order' cognitive capacities, such as critical thinking and problem solving – but also social, ethical, and emotional capacities and dispositions. The rich heritage of ancient and eternal Indian knowledge has been a guiding light for this Policy(Ministry of Human Resource Development, 2020).

The scenario of minimal interaction with the public during the academic years of medical course and focussing on Post Graduate entrance coaching during the internship period generates knowledge oriented graduates who are not prepared to address the PHC level patients. Further, many migrate abroad causing a brain drain in the medical field. Thus, the large pool of medical manpower, despite the medical training in and outside the country, fails to identify with the needs and cultural background of the local population. In addition, the health system in general neither seems to address all the concerns of the patient at the primary level nor guides him to better options, leaving him with doubts and puts him at the decision making end without being well-informed of all the health intervention options available for his concerns. The current NEP draft includes Medical education very briefly suggesting changes in duration and structure of course, integrative healthcare and stress on preventive medicine(Ministry of Human Resource Development, 2020). The vision is to take it up in the coming years with groundbreaking reforms so as to cater to the local and nationwide needs with the curriculum and skill training rooted to addressing the problems of the country in all its length and breadth. This paper is an attempt to aid direction in moulding the medical education in India encompassing an integrative and democratic approach with respect to the new NEP 2020.

Materials and Methods

Extensive literature search was done on the topic in the available digital databases with keywords 'education', 'NEP 2020', 'medical education'. Further, experts in the field were contacted and an effective discussion in the form of a webinar was conducted by Vidya Bharati Uchcha Shiksha Sansthan. The guest speakers were Dr.B.N.Gangadhar(BNG), Former Director, National Institute of Mental Health and Neurosciences (NIMHANS) Bengaluru, an Institute of National Importance and a member of the Medical Education Draft Committee on National Education Policy 2020, Dr.B.S.Prasad(BSP), Principal, BMK Ayurveda Mahavidyalaya, Belagavi also a member of the AYUSH section of the Medical education Draft Committee NEP- 2020, and Dr.Suresh Bada Math(SBM), Professor of Psychiatry NIMHANS Bengaluru and an eminent scholar in the fields of Community Psychiatry, TeleMedicine and Law. Their valuable inputs have been central to the formulation of this paper which aims to throw light on the impact of NEP on Medical education. The Chairperson, Dr.Subbaiah Shanmugam, Professor and Head, Department of Surgical Oncology, Government Royapettah Hospital and Kilpauk Medical

College, Chennaian eminent surgical oncologist summarized the crux of the discussion. Dr. Kishore Kumar Ramakrishna, Assistant Professor of Ayurveda, NIMHANS Bengaluru moderated the session.

Discussion

The vast curriculum in medical course in the Allopathic stream as well as AYUSH systems is spread over 5.5 years of UG training and 3 years of PG training. Following this, PhD or fellowships are attained according to individual interests and calibre. Also, allied courses like nursing, pharmacy, radiology, perfusion technology, etc have subjects in common with medicine. The webinar highlighted the lacunae of the existing healthcare structure in the country and stressed the necessity of bringing all such courses under one umbrella, creating a unified, integrated and democratic medical education system and health care system easily accessible at the public health care level. The areas of prime importance can be summarised under the following headings:

ADDRESSING THE NEED IN THE HEALTH SECTOR

- WHO recommendation of Dr.: Patient ratio is 1:1000. In India, as of Feb, 2020, availability of Allopathy doctors is 1:1404, AYUSH doctors is 1:2190 and Dentists 1: 5000. After considering a 20% attrition, summing up the Allopathy and AYUSH sectors, we are much ahead of the WHO recommendation ie. 1:848. But we are not ready to distribute and integrate healthcare so as to benefit the society. The existing intra-disciplinary, inter-disciplinary and trans disciplinary conflicts prevent us from providing uniform health care facilities across PHC, district hospitals and speciality hospitals in rural and urban India alike (SBM).

- There is also an apparent shortage of doctors reported whereby mushrooming of sub-standard medical colleges both in Allopathy and AYUSH systems have happened. But probably the distribution of doctors in urban and rural areas is non-uniform. Hence, it is vital to plan education opportunities based on the need in the country so as to ensure no deterioration in the quality and standards of medical education and prevent unemployment(BNG).

DIGITAL PLATFORM FOR MEDICAL EDUCATION

- The Digital India Campaign is helping to transform the entire nation into

a digitally empowered society and knowledge economy. Technology itself will play an important role in the improvement of educational processes and outcomes. Use and integration of technology to improve multiple aspects of education will be supported and adopted, provided these interventions are rigorously and transparently evaluated in relevant contexts before they are scaled up. 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, and so on, both for school and higher education. This should be utilized in medical education too(*(PDF) FOUNDATIONAL STUDY ON THE IMPLEMENTATION OF NATIONAL EDUCATIONAL TECHNOLOGY FORUM*, n.d.).

- The enormous volume of knowledge and memory-based subjects ranging from anatomy, physiology, biochemistry to clinical subjects like obstetrics and gynecology, etc amounts to a lot of time (5.5 yrs) in the moulding of a doctor. This was essential years ago when the resources were sparse and the digital platforms were yet to develop. In the past, fewer teachers and staff were available and diagnosis had to be done by the doctors alone. Present scenario is far different. There are virtual libraries, technological investigations, new learning methods, and simulations. Everyday conferences, webinars, symposiums, etc open up learning opportunities beyond classrooms(SBM).

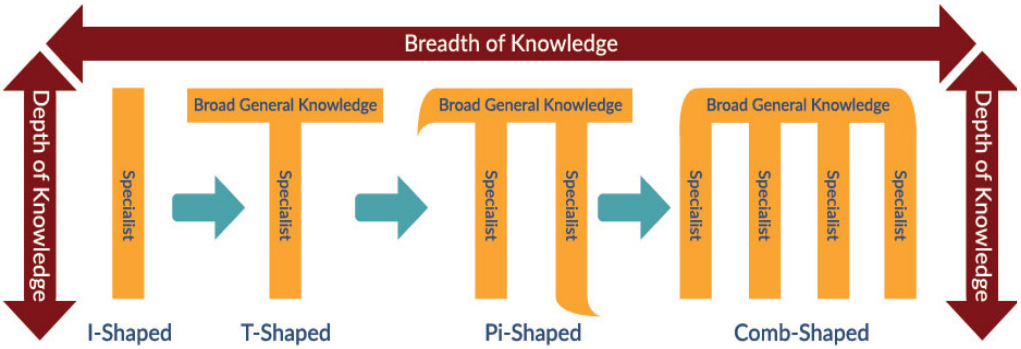
- Utilization of Tele-medicine, an area of scope and research in recent times, should also be stressed upon.

- The lacunae here could be electricity and connectivity in rural areas and lack of expert human resources in this field. Also, we have to answer the question of affordability incase of extensive digitalization(SBM).

Models of Education

Taking example from the IT sector, agile model of knowledge and specialization is recommended. The previous models of I-shape with one specialization area, T-shape with broad general knowledge and one area of specialization and pi-shape with a broad general knowledge and two areas of specialization, respectively have been rapidly replaced by one another in the previous years. Now, the Comb shaped model having a multi-skill profile with

a broad general knowledge and 3-4 areas of specialization is being advocated so that one has the ability to apply knowledge across situations/domains. This reform should start from UG level or even earlier, from secondary school level, where students can be given a buffet system with compulsory and elective subjects. This mechanism gives liberty to the students to choose subjects, hence breaking the boundaries of old school science and commerce streams alone(SBM).



Health Services and Medical Education

- Health services and medical education departments should be merged for their better and smooth functioning. Further, all health systems should be managed under one academic umbrella(BNG).

- Higher Education Commission of India (HECI) is proposed under NEP, which will have regulations, funding, accreditation and standards for learning outcomes in all fields. Other professional councils (engineering, medical, legal, etc) will help and advice HECI.

- Replacing multiple funding agencies with National Research Foundation (NRF) to give a comprehensive effort in funding and mentoring clinical and non-clinical research studies.

- Multi-disciplinary Education and Research Universities(MERUs) which are model public universities for holistic and multidisciplinary education, at par with IITs, IIMs, etc., aiming to attain the highest global standards in quality education should be given importance.

- National Medical College Network should be strengthened to connect,

implement and assess the progress of new policies and reforms across institutions.

AMENDMENT OF COURSE FORMAT

The current course is long with 51/2 years duration, with many subjects that are redundant at this point of time. It is mainly constituting memory-based knowledge or cognitive domain with little of psychomotor domain (clinical skills) with almost no emphasis on affective domain (attitude).The most essential elements of affective domain such as empathy, professionalism, altruism, communication skills, ethics, and humanities are not covered anyways in the syllabus (Kulkarni et al., 2019)

. Hence, deriving leads from the expert discussion, the course structure could be amended as follows:

1. 70% core mandatory curriculum and 30% institutional/ state curriculum based on geographical/ regional needs
2. Initial 1.5/2 yrs may be common for all medical streams wherein concepts of wellness, disease prevention, diet & lifestyle, public health could be stressed upon.
3. Certificate Course of 1year duration making the individual competent as a Diet & Lifestyle Counselor,etc. Thereafter, option to migrate to other streams such as dietetics, occupational therapy,Yoga, Rejuvenation, etc should be made available(BSP).
4. Diploma (on completion of 2 years) – Building entrepreneurship and exposure to subjects like Pharmacology and therapeutics, microbiology, pathology,etc. Further, migration to B.Pharma, Medicinal Plant botany, Raw drug cultivation, Diagnostics, Food technology, etc be allowed.
5. Bachelor's degree (3 yrs)- Clinical proficiency and exposure to skill-based learning, with core medical and allied subjects. Here, the PHC level hands-on training and management of patients should be of prime importance.
6. The individual can then migrate to various advanced courses on clinical medicine, specialize according to his interest and caliber.
7. Compulsory training in real world situations like in PHCs,

Community Health Centres and District Hospitals should be a mandate to ensure that doctors are well-connected with the physical and mental health matters of the society they live in and are able to manage them efficiently(Dasgupta, 2020).

8. A 4-year Research degree and 1 year Master's degree could be formulated minimizing the vast knowledge-based study materials and providing need-based specializations/ streams.
9. Credit banks should be introduced whereby the credits accumulated during one course can be carried over while joining another course.

Flexibility in Medical Education

Autonomy should be given to the individual to branch off and pursue other streams within and outside medical education. Flexibility is to be ensured in the education via multiple entry and exit points during the course. As it is a long course, students should be allowed to break off and join back at various levels for reasons of migrating to a different stream/course, to meet other responsibilities, etc. Here the credit bank system will come to their advantage. Informed and appropriate career guidance should enable them to make the necessary choices.

Student Assessments

An opinion to do away with the objective entrance model of assessment to get into medical courses and relying on their scholastic performance in the higher secondary level for the same is suggested.

Students shouldn't be restricted to striving to get admission into one/ few premier medical institutes in the UG level. For that, uniform standards should be ensured across institutions, whereby uniform quality of doctors are produced in the country.

According to NEP, students would be assessed at regular intervals on well-defined parameters primarily required for working in primary care and in secondary hospitals. Health profession demands both the art and science ie. Skills and knowledge. Presently curriculum is more knowledge-oriented and MCQs are yardsticks. This should be revamped to impart both skills and knowledge equally and standardize measurements of both(BNG). The progress from one level to the other should be assessed by continuous formative and summative assessments and not objective memory-based exams(Kulkarni et al., 2019).

Teacher Training

There is a need to put down a rigid criterion for teacher requirements. Skills should be defined at every level of medical education. As of now, there are imperfections in the skill development at various levels.eg. A postgraduate after 3 years senior residency is eligible as teaching faculty, but the teaching skills are not ensured during these 3 years(BNG).

Academic staff colleges with various cells like curriculum design & development cell, teaching content development cell, feedback evaluation assessment cell should be established. Every medical institute needs to establish Department of Medical Education to train teaching staff(ZODPEY et al., 2016). Also teaching content should be developed in AYUSH streams to progress to ICT enabled teaching. Since most of the available texts are in Sanskrit and other Indian languages, it would be a challenge(BSP). Medical education in the AYUSH stream is an important area of research. Emphasis on in-service education and ensuring every health service facility to have a teaching agenda would promote continuous, skill-based and experiential learning.

Integration

Given that people exercise pluralistic choices in healthcare, our healthcare education system must be integrative. Every step should be taken for movement from illness to wellness concept and establishing a 'One nation-one healthcare system' model. Transition from cafeteria approach where different medical systems are co-located and patients approach each of them based on their interest to complementary approach should be envisaged and brought about. True integration happens when clinicians from different medical systems, understanding the strengths and shortcomings of each system sit together to devise a protocol that is most suitable for the patient(Singh, 2016). Dedicated centres to develop such integrative protocols and introduction of such protocols into practice and medical education are necessary(BSP). At the primary health care / rural level, the doctor, who is the primary contact of the patient, should offer all systems of medicine (ie. have basic knowledge of all systems). Realization of 'Pride in India' concept in medical education and healthcare should promote this integration and aid in a non-discriminative approach to the AYUSH systems of medicine. Integration should also be across medical streams, basic sciences and allied sciences, so that the developments in one field can be utilized in other fields, can improve task sharing, and provide for safe and eco-friendly outputs.

International Exchange and Medical Education Abroad

NEP does not talk about export of doctors. But NEP can guide the export of our doctors to countries that actually need them. Also, Indian students flying abroad for UG medical education is not an uncommon scenario. As UG training is for primary care and since language and cultural barriers exist, UG training should be essentially done in the country. Also, speciality training abroad has to be regulated considering the same barriers. Basically, the awareness of the health problems of the society, language and cultural backgrounds will be a lacuna if doctors trained abroad have to treat within the country. These need to be addressed and regulations made accordingly(BNG).

Recommendations

- Plan education opportunities based on the need in the country whether it is in terms of new medical, dental, nursing colleges and/ or colleges of allied sciences, hospitals, clinics, etc.
- Coordinate with NETF to digitalize medical education, expand Tele-medicine and ensure electricity and connectivity across the nation especially the rural areas.
- All health systems should be brought under one academic umbrella. Furthermore, medical education departments and health services should be merged.
- MERUs are to be established and given importance and National Medical College Network should be strengthened.
- Restructure the course duration, content and format in such a way as to provide a certificate course for completion of 1 year, Diploma on completion of 2 years, Bachelor's degree on completion of 3 years and so on. Provide flexibility by way of multiple entry and exit points in the course, introduce credit banks and replace the existing student selection and assessment methods with more dynamic, skill-based, continuous formative and summative tests.
- Establish Department of Medical Education to train teaching staff as well as amend the curriculum, encourage in-service training, and ensure that every health facility has a teaching agenda.

- Integration is the key to answering all or atleast most of the health concerns of the nation. The primary contact doctor at the PHC ideally should have basic knowledge of all medical streams so as to give the best possible treatment options to the patient. This vision will gradually take place with emphatic research, development and practice of integrative treatment protocols by dedicated centres.

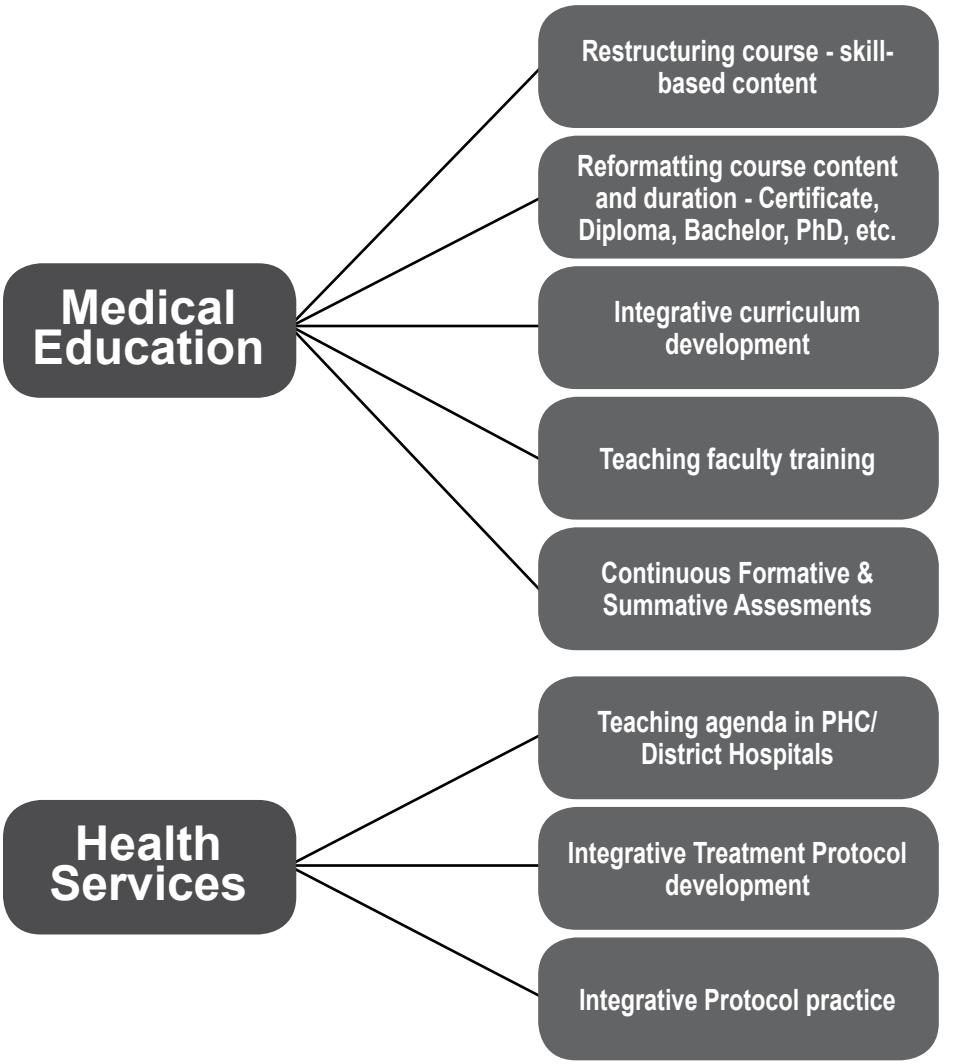
- Regulations on UG and speciality training of doctors abroad has to be stipulated.

- Phase-wise reforms in both areas of medical education and health services should eventually empower us to have a uniform healthcare system across the nation.

CONCLUSION

The Indian healthcare system needs to address the health problems of both worlds,ie. malnutrition, infectious diseases, etc of the developing world and obesity, diabetes mellitus, etc of the developed world. To effectively address these across the rural and urban population, an efficient integrative system that essentially has knowledge of modern medicine as well as AYUSH systems is necessary(Rao, 2015). This will eventually result in a single medical course at the UG level bringing about the notion of 'one nation-one healthcare system'. Revamping and amending the medical course structure with multiple entry and exit points, thereby giving autonomy to the individual, introducing credit banks, introducing certificate, diploma and bachelor's program thereby reducing and breaking down the memory-based syllabus portions and converting the course to more of a skill based agile model would all bring the medical education and healthcare facility to international standards and ensure uniform healthcare across the nation. But this restructuring requires a lot of planning and implementation phase-wise at different levels beginning from secondary school level. This needs to be taken up in line with the changes of NEP 2020 at the school level.

Schematic Model Representing steps to be taken at the level of Medical Education and Health services



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Agricultural Education: Present status and way forward

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Abstract

The Global economy confronted a severe crisis in the wake of the recent Covid-19 pandemic. The Indian economy was equally affected; the abrupt situation forced all the sectors other than agriculture to bow down. The agriculture sector grew by 3.4% during the first quarter of 2020-21 fiscal and there has been a record increase in area sown under kharif crops by 4.51% despite the pandemic. Moreover, agriculture also stood as a support pillar for the millions of labourers who migrated to villages in an unprecedented way. Thus, from enabling India to achieve self-sufficiency in food grain production to emerging as a silver lining in the gloomy economic landscape, agriculture has contributed substantially in the national development. Inspite of its significant role, agricultural and allied subjects form a negligible part of school syllabus in most states. During initial stage after India's Independence the policymakers have suggested to keep agricultural education as part of overall rural development and also suggested to have agricultural colleges and universities in rural areas so that farmers and rural youth get trained in modern technologies and keep pace with the recent innovations so as to maintain their income through agricultural profession. However, in the later years due to some or other reasons agricultural education got disintegrated and got cut-off from rural areas leading to reduction in farm income and exodus of rural youth from agriculture profession. The NEP 2020

has again given hope that agricultural education shall be re-integrated with emphasis on strengthening research and extension structures of agricultural universities, focus on attracting talented youth and providing solutions to the issues of rural India. Looking into the potential to grow geographically, subject-wise, intake-wise and into the indepthness of science and innovations, the agricultural universities of the country emerge as the forerunners in the structural reforms possibility of higher education scenario of the country.

Introduction

Over 200 million Indian farmers and farm workers have been the backbone of Indian agriculture. 52% of the labour force is employed in agriculture and allied activities and is the main source of livelihood for over 70% of the rural poor. However, at the time of independence agriculture sector used to contribute more than 50% to the country's GDP that has come down to 14% at present. The production is increasing at slow pace and sustainability is at stake. Despite multiple challenges confronted by agriculture, it emerged as the sole sector to project growth in Indian economy and supported the two times meal of the millions of migrant labourers during Covid-19 pandemic. Though utmost relevant, but with the passage of time agricultural education has became disintegrated and more and more single stream and unitary universities have come up. The vision of our earlier policymakers to keep agricultural education integrated with other disciplines focussing on resolving rural issues have been to a certain extent been compromised. NEP 2020 has given impetus on reintegration and inclusion of more opportunities for students and youth to learn the subjects of their choice simultaneously. There is emphasis on developing skills among rural youth to make them take up their own entrepreneurial ventures.

Agriculture Education: History

India has ancient wisdom of farming since beginning of human civilization. It came from enlightened *Rishis*. Agriculture (*Krishi*) finds extensive mention in many vedic texts such as *Krishi Parashara*, *Kautilya's Artha-shastra*, the *Sangam* literature of early Tamils, *Manusmriti*, Varāhamihira's *Brhat-Samhita*, *Amarakosha, Kashyapiya- Krishisukti*, and Surapala's *Vrikshayurveda*. These texts provide information about agriculture, horticulture, arboriculture and plant biodiversity. In the *Artha-shastra* (321–296 BC) Kautilya has mentioned the economic aspect of agriculture. In *Krishi Parashara* (c. 400 BC) and *Brhat-Samhita* (505–587 AD) detailed techniques of forecasting rain is mentioned. *Rigveda* identified productive and non-productive soils (, 1991). The *Amarakosha* (c.

400 BC) (Jha, 1999) described 12 types of lands in its chapter on *Bhumivargaha*, depending upon the fertility of the soil, irrigation, and physical characteristics. In the chapter on *Vaisyavargaha*, soils based on suitability for specific crops are mentioned. Rig veda mentions irrigation of crops by river water through channels as well as irrigation from wells. This indicates the rich agricultural heritage of India. Moreover, the *Krishi Rishis* through their texts contributed immensely in agriculture education and research and developed a foundation of agriculture as a scientific discipline. Imparting agricultural education was also an integral part of the *Gurukula* system in the ancient times.

In the recent past the seed of agriculture education was sown by the establishment of IARI in 1905, followed by the establishment of Agriculture colleges at Kanpur, Nagpur, Lyallpur and Coimbatore in 1906, Pune in 1907 and at Sabour in 1908. In 1947, the Government of India formed the University Education Commission under the Chairmanship of Dr. S. Radhakrishnan, who identified agricultural education as a major issue, and recommended establishment of 'Rural Universities' (S. Radhakrishanan, 1949). Located in rural settings, the Rural Universities were to consist of a ring of small residential undergraduate colleges with specialized main University, for post-graduate education at the Centre. The Rural Universities were proposed to be autonomous and free to develop their own programmes, syllabuses, curricula, and regulations to teach all subjects, including literature, history, philosophy, psychology, social sciences, mathematics and the natural sciences. In 1958, the University Grants Commission accorded the status of a Deemed to be University to IARI.

In India general higher education is in concurrent list but agricultural education is still a state subject that needs to be brought under concurrent list. Though agricultural universities are established under the UGC Act, and ICAR plays no role in establishment of agricultural universities, and yet a relationship between ICAR and agricultural universities has been established. In the year 1960, the first State Agricultural University (SAU) was established in 1960 at Pantnagar. This is how agricultural education, research and extension became a mandate of agricultural universities. The research and extension as the prime wings of agricultural development of the country could not get proper attention or thrust into the country due to structural lapses to support these wings as an integral part of agricultural universities.

Later the Education Commission (1964-66) recommended establishment of at least one Agricultural University in each State. The Indian Council of Agricultural Research developed a Model in 1966 which could be adopted with

such changes as were deemed necessary by the newly developed Agricultural University. The salient features of the SAUs are: (a) integration of teaching, research and extension functions at all levels, (b) course-credit pattern of education with continuous internal evaluation, (c) teaching through constituent colleges with no provision for affiliated colleges.

Present status

At present there are 66 State Agricultural Universities (SAUs), four Deemed Universities, three Central Agricultural Universities, and four Central Universities with agricultural faculty. There are 362 government agriculture and allied colleges and around 300 private agriculture colleges.

In order to ensure uniform structure and effective governance in agricultural universities through regulations, the ICAR developed a Model Act in 1964, revised from time to time. An Accreditation Board for a comprehensive process of accreditation of SAUs, periodic revision of course curriculum, academic regulations through the Deans' committees and assurance of quality agriculture education was established in 1996 (Dr S. Ayyappan, Personal communication).

Concerns and Challenges

- Currently, Agricultural universities are serving as unitary institutions for specific discipline, which is not aligned with the philosophy of rural universities envisioned by Dr. Radhakrishnan Education Commission.
- The fund flow is a challenge with lack of funding for education, research and extension activities, which is supposed to be the main thrust of these universities.
- Lacking prospects of jobs and entrepreneurship, supported by government legislations and structures.
- Agriculture sector is getting more complex due to day by day increase in risks and uncertainty, impact of climate change, globalization, entry of corporate sector in agricultural value-chain, expanding demand for processed food, need for post harvest technology and most important the turning away of the rural youth from agriculture profession. To address these challenges, India will need rich human capital of qualified, motivated, and well trained agricultural manpower.

- Agriculture is viewed as a second-class pursuit not worthy of the best students. In far too many cases, agriculture represents a students' second, third or even fourth choice of study. For this to change, the admission process itself should be altered, but even more fundamentally, the image of agriculture demands metamorphosis.
- Several concerns have been expressed for declining quality of agricultural graduates. Major concerns are very less faculty strength, lack of manpower in frontier areas, inadequate hands-on skills and lack of research experience (Kumar et al., 2014). The SAUs also have a serious problem of inbreeding as nearly 51% of faculty members have their all degrees from the same university in which they are teaching (Ayyappan and Arunachalam, 2014).

NEP 2020 Recommendations

- Agriculture universities should emerge as a multidisciplinary institution with integration of natural sciences, basic sciences, social sciences, behavioural sciences, agribusiness, management, arts, literature, and crafts alongwith fundamental & applied researches.
- Strategic investment with provision of ample funding for research and extension in agricultural universities is required.
- The overall higher education sector will aim to be an integrated higher education system, including professional (Agricultural) and vocational education
- Preparation of professionals must involve an education in the ethic and importance of public purpose, an education in the discipline, and an education for practice.
- The preparation of professionals in agriculture and veterinary sciences through programmes integrated with general education is required.
- Developing professionals with the ability to understand and use local knowledge, traditional knowledge, and emerging technologies while being cognizant of critical issues.
- Institutions offering agricultural education must benefit the local community directly; one approach could be to set up Agricultural Technology Parks

- Provision of vocational education during senior secondary school stage, through the Vocational Education and Skills Board (VESB).
- ICAR shall be part of General Education Council (GEC) as one of the professional standard setting bodies (PSSB). However, ICAR shall continue to grant fund for research and development.
- Establishment of Indian Agricultural Services just like Indian Administrative Services across in the country right from district to center to look after the robust scenario of agricultural jobs and entrepreneurship.

Way Forward

- Formation of Task Force both at state and central govt. levels
- Formation of committees at university level.
- Preparation of Roadmap and strategy with timeline.
- Policy change at Ministry & ICAR Levels.

Integration of agricultural education

- All future Agricultural Universities should be integrated and present ones shall be merged or integrated in phased manner
- Preparation of Institutional Development Plan by all Agricultural Universities.
- Changes in course curriculum-both at UG & PG level-incorporation of basic sciences
- Traditional and indigenous knowledge should be part of the course curriculum.
- Ethics and human & Constitutional values like empathy, respect for others, cleanliness, courtesy, democratic spirit, spirit of service, respect for public property, scientific temper, liberty, responsibility, pluralism, equality, and justice; Basic science courses
- Extracurricular activities requires to be part of main curriculum.
- Participatory curriculum development is needed.
- Teaching life skills such as communication, cooperation, teamwork,

and resilience should be a part of curriculum.

- At school level, students could be exposed to topics like soil health, balanced use of fertilisers, importance of weather, water conservation, and importance of seeds in agriculture and pest control, as an optional subject
- Incentives to attract talents residing and well groomed in agriculture from rural areas so that there is real interest
- Incubation centres in the universities and live running enterprises.
- More number of scholarships to attract talents; Incentives for innovation and ideas.
- Establishing Model and world-class institution.
- Starting of Certificate and diploma courses by each agricultural and allied institutions
- Options for multiple entry and exit should be provided
- Emphasis on learning more than one language with specific focus on the native languages.

Conclusion

Agriculture is a way of life, a tradition, which, for centuries, has shaped the thought, the outlook, the culture and the economic life of the people of India. Agriculture, therefore, is and should continue to be central to all strategies for planned socio-economic development of the country. Currently, under the Institutional Development Plan of National Higher Education Project (IDP-NAHEP), several agricultural universities have taken a leap in transforming the persistent agricultural education system. Pantnagar University can be considered as a success case, wherein through integrated and synchronous approach of the multidisciplinary teams, IDP-NAHEP is being harnessed as an opportunity to build a new era of teaching learning ecosystem including the much needed facets of higher order cognitive skills, virtual classrooms, digital teaching infrastructure, strengthening of e-governance in academics, language proficiency in English and foreign languages, exposures and trainings in artificial intelligence, big data analytics, climate smart agriculture, agro-informatics, industrial alignment and attachment etc. Also, through funding and expertise of IDP-NAHEP, Universities were able to prepare

themselves for post-lockdown changes in the system of agricultural education especially in context of equipping infrastructure related to online teaching and training teachers and students on the digital platforms (GBPUAT, 2020).

The recently launched National Education Policy 2020 with a mandate to restructure and reform the overall scenario at national, state and university level provides an opportunity to bridge the gap and to strengthen the research and extension structures of agricultural universities in robust manner through national legislations so that the land-grant pattern universities of India may emerge as global and brilliant universities similar to their predecessors of United States. The agricultural universities of the country have potential to usher structural reforms possibility in higher education scenario of the country with their potential to grow geographically, subject-wise, intake-wise and into the indepthness of science and innovations.

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Imperatives of ODL and On-line Learning in the context of NEP-2020

■ *Prof. Kshiti Bhusan Das*

There is no denying the fact that the NEP-2020 has opened a new horizon of Open & Distance Learning and Online education. Of course transformation and evolution is a continuous process. The significant changes are marked in the profile of job market, in the field of research and also in the societal requirements. A look at the pace of economic growth of this country, endorses a fact that both the services and industry sector dominates. Therefore, the incremental demand for skilled workforce will be significant and India has the potential to emerge as a supplier of skilled manpower even to the world. But before that, a reality check reveals the statistics of higher education system which is not so encouraging. Despite a massive institutional structure our Gross Enrolment Ratio (GER) is far below then that of other leading countries.

Keeping in mind, these requirements and the socio-economic scenario, the National Education Policy 2020 has prescribed a robust education system which can deliver multiple imperatives. Accordingly, it architects a large scale affordable access to high quality university education. It speaks about adoption of a learner-centered education with multi-disciplinary approach. It has also suggested to provide the students, the choice of entry and exit from the system simultaneously encouraging life-long learning for professionals. The policy strongly recommends the adoption of new pedagogical tools and techniques like blended learning in flipped classrooms, experiential learning etc.

The structural and systemic changes forwarded by the NEP-2020, thus empowers the traditional universities and institutions to offer higher education

in both the modes face to face and online. The imperatives of allowing the Open Distance and Online Learning (ODL & Online) lies with the premise of our education policy – i.e., Access, Equity, Quality and Affordability. The NEP intends to enhance the GER to 50% by 2030 and comply to the Sustainable Development Goal 4. Therefore, recently, licenses and permissions were accorded to 100 institutions to offer on-line courses. It was also hinted at the last Budget (2020).

This is certainly a welcome step, but it remains a challenge with regard to its implementation. There are many apprehensions with regard to the expectations from this ODL and On-line mode. For a meaningful ODL and Online learning, institutions are required to provide a reliable and uninterrupted ICT facility. Another big challenge that is being encountered is related to the mode of delivery and content creation. Apart from recognition and accreditation, the formidable challenge that this model face is acknowledgement – i.e., the recognition by the prospective employers.

Therefore, VBUSS, took up the task of getting a clarity note on this mode of education from the experts and the moderator Prof. Kshiti Bhusan Das was assigned the task. It was through virtual interactions and the excerpts are presented below.

1. **How successfully the ODL model will provide seamless access to sustainable and learner centric quality education, skill up-gradation and training?**

   The significant aspect of the Open and distance learning model is flexibility and blended mode. The flexibility and multimodal approach provides access and equity to higher education. Besides, collaborative projects with the State Governments in the areas of teachers' training, competency enhancement and skill development can bridge the skill gap and provide certifications too. ODL model can also develop a framework for linking RPL to the higher education and thus making it as sustainable model of higher education.

2. **What should be the mechanism for developing professional capabilities & resources to improve standards of distance education in the country?**

   The UGC ODL and Online Regulations 2020 have already set the benchmark for regulating ODL and Online mode of education in the country. It has become mandatory for any HEI to seek NAAC accreditation with minimum score of 3.01 or above for offering ODL

and online mode programmes/ courses. Hence, concerns regarding quality and standard in distance and online mode have already been addressed.

3. **How can it be regulated? Who will ensure the assurance of NEP that the SLM/ Programme/ Course must be at par with the peers in traditional institution?**

According to the UGC ODL and Online Regulations 2020, the qualifications earned through ODL/ Online mode are at par with that of the qualifications earned through the conventional mode. The said regulations have given following recommendations for SLM (Self Learning Materials):

(i) Self Learning Material has clearly stated objectives, intended learning outcomes, study guidance and advice for the learners as to how to optimally use the material and suggestive related reference material to enhance the learning experience, and linkage within the text with other media (for digital SLM) is maintained for easy referencing and progress;

(ii) At least 60 per cent. of Self Learning Materials shall be developed by the in-house faculty of the Higher Educational Institution and the remaining per cent. of the materials can be sourced from available resources such as other Higher Educational Institutions, Open Educational Resources (OER), and *SWAYAM*, duly approved by the statutory authorities of the Higher Educational Institution;

(iii) Self Learning Materials developed and offered by it is self-explanatory, self-contained, illustrative, easily comprehensible, and in manageable modules such as units and blocks;

(vi) Self Learning Materials provides adequate mechanism for the learners to provide feedback on their understanding of the subject;

(v) Self Learning material is revised periodically from the perspective of improving quality and learner support:

4. **What types of changes are required in the system and processes of ODL/ Online educational institutions to use OER efficiently**?

The regulations make provision that a Higher Educational Institution offering programme(s) in Open and Distance Learning mode shall take such measures as are necessary to blend

Information Communication Technologies (ICT) including those developed by National Mission on Education through Information and Communication Technology, for enhancing effectiveness of teaching – learning process, and administrative functioning and for maintenance of updated information at all times in respect of status of admissions, registration, for managing teaching-learning activities through online support for interactive learning with learner feedback, to facilitate the use of Open Educational Resources (OER).

5. Whether the practiced pedagogy by these institutions is appropriate to a technology enabled environment?

A Higher Educational Institution need to demonstrate capability, for developing and production of Online programmes with the technology for production including in-house or duly out-sourced production facilities for converting the courses of a Programme into Online Programmes, defined as under– (a) learning videos with recording or dubbing or editing facilities for graphics or animation creation; (b) e-content for reading and improving comprehension of learners; (c) tests and assignments that test the understanding; (d) discussion forum that clarifies the doubts of the learners.

6. Everybody talks about Blended learning. What are the benefits of this mode?

Blended learning is a blending of different learning methods (face to face, online, audio, video, print, social media) techniques and resources. Here learners have easy access to different learning resources in order to apply the knowledge and skills they learn. It gives learners and teachers an environment (Instructor led, team work, self-study, peer group interaction, collaborative learning) to learn and teach more effectively. Learners can select the best activities to suit their own pace, learning style and level, as well as time & place. Learners are more independent and self-reliant in their own learning. They are able to take decisions, think creatively and critically, investigate and explore as well as solve problems they face in learning and real life.

In simple terms blended is a composition of 50% face to face and 50% online education. Therefore, flipped classrooms are essential to adopt this mode of teaching.

7. **What types of skills are required for the faculty to use new technologies for course development**?

   The areas for capacity enhancement and skill development of faculty should cover learning videos, e-content, online assessment and examination and discussion form besides integrating the OERs with the learning materials.

8. **What are the policies to offer Skill Development Courses in these institutions**?

   Presently, the BVoC programmes are offered under skill development category by the conventional face to face institutions however, policy framework for offering NSQF complaint skill development courses and BVoC courses for ODL institutions is yet to take place.

9. **Is there any effort to prepare the learner for the jobs of the future?**

   The learner could be prepared for the future jobs through skill up-gradation inculcating soft and professional skills. All such students may be subjected to the skill assessment tests and skill gaps, so identified, can be training and orientation capsules both through face to face as well as online mode.

10. **Please suggest some examples of models for offering skill based courses in these institutions?**

    A collaborative framework between ODL institutions and Sector Skill Councils under National Skill Development Council (NSDC) can be worked out wherein skill components of NSQF complaint courses such as Level 5 (Diploma), Level 6 (Advanced Diploma) and Level 7 (Bachelor Degree BVoc) can be imparted through approved skill development centres of NSDC and general education components can be transacted by the ODL institutions. The responsibility of assessment and certification may b under the domain of the ODL institutions.

11. **How can the current instructional practices be improved to meet the needs of young students?**

    The new learner is techno savvy and hence technology enabled learning environment needs to be integrated in the ODL institutions. Besides, the learner profile in the ODL mode is heterogenic, hence

blended mode of education may be beneficial and productive too.

12. What are the current problems that teachers in these universities face in performing their roles?

The ODL mode learning has different curriculum, pedagogy, assessment, and student support for enhanced student experiences as compared to the conventional face to face mode of higher education. Hence, teachers from the conventional universities need training and orientation to support ODL and Online learning communities.

13. How can technology be leveraged to improve student support services?

The very word 'distance" can be minimized or removed between the students and the institutions, if technology is integrated with student support services for enhanced learning experiences.

सांगठनिक सुझाव

Acing policy implementation: Expert recommendations for NEP 2020

Multidisciplinary and Holistic Education

- Converting the existing universities into large multidisciplinary universities in every district of each state in next couple of years will be a decisive step in this regard. This will be encouraged by increased faculty and institutional autonomy.

- Committee for curriculum revision at UG & PG level for holistic and multidisciplinary learning need to be constituted at central and state levels.

- The curriculum in IITs needs to be redefined and revised for more holistic and multidisciplinary education with more courses in humanities and social sciences. Institutes like some IITs already have the facility of PG and Ph.D. courses in other fields, they may introduce those courses at the UG level also.

- Proper methodology needs to be developed to integrate the humanities and arts with Science, Technology, Engineering, and Mathematics (STEM) at the UG level to develop out of the box thinking of the Students.

- In order to fill the gap between academia and industry, for the proper use of Government Schemes at all levels, an integrated committee comprising experts from academia, government, and industry must be constituted.

- The real challenge is to convert all Higher Education Institutions into high-quality holistic and multidisciplinary educational institutions. First,

the central government must come up with more clarity regarding its vision of MERU. Also, special departments under Ministry of Education needs to be established to develop the mechanism for cross-disciplinary and interdisciplinary thinking among students.

- Different Departments as suggested along with culture - for example, Departments of Languages and Culture, Departments of Literature and culture, Departments of Music and culture, Departments of Philosophy and culture, Departments of Indology and culture, Departments of Art and culture, Departments of Dance and culture, etc., - may be established in HEIs. Facilities of a specific department may be shared in cluster universities/ colleges. Credits may be transferred through ODL.

- For Holistic and multi-disciplinary education in HEIs, the following pedagogical approach must be adopted:

1. Field studies/ research based on community may be introduced in different areas at different levels.

2. Compulsory internships with local industries may be introduced at different levels to realize the concept of 'Vocal for Local' and to enhance the employability at the local level.

3. Creation of Opportunities for internship on a global scale to meet the contemporary global challenges must be introduced at different levels.

4. Curriculum Designing Committees in each discipline must be constituted at central level to frame broader guidelines and make the system uniform.

5. More vocational, skill, and employable course content must be introduced from the first year for holistic development of the student.

6. In multiple exit systems, students must be given a chance to complete their degree through distance mode even in technical, science, and professional education.

7. Few top HEIs within and outside the country may be identified for successful implementation of CBCS and Academic Bank of Credit.

8. Academic Bank of Credit also needs to be introduced at the Ph.D. level.

9. Ph.D. must be linked with fellowship programs for better outcomes and quality research.

10. Behavioral research must be promoted.

1 1.Global education centers must be in each university, which will decide to open university centers at global level and global top university centers in the university.

12. Signing global MOUs for joint collaboration in academics and research.

13. Promoting multi-disciplinary research in each university.

14. Identification of Govt and Private universities as Research Universities should be completed in first six months.

15. Indicators/ Parameters must be finalized at the earliest.

16. All central universities must be declared as residential and research universities

17. Every research university must focus on:

a. Liberal funding for quality research activities

b. URF (University Research Fund) in each university needs to open, which will work under NRF.

c. Creation of endowments [e.g., from alumni, philanthropic entities, etc.]

- Recruiting diverse faculty in the same department and teaching diverse subjects in the same degree may help out in a multidisciplinary structure. For example: if a faculty is hired in a department, he /she will be obligated to teach his/her course there; this way multidisciplinary education will get institutionalized.

- Approximately 50% of all courses in a degree should be optional/ elective subjects. These are courses that will be offered based on faculty member's own research interests. They could be seminar modules or be done by visiting faculty (experts in areas other than the department's core area). Students themselves could propose inviting certain people as visiting lecturers.

- Universities may encourage establishing research centers in various interdisciplinary areas, or on area studies (for instance, Centre for Japan Studies) where various faculty members will act as honorary fellows. Their research will be conducted through these centers and students will actively assist with the research.

- Classes could be organized in such a way that two faculty members of different disciplines take the same class at the same time. This could be a dialogical class whereby students will learn from diverse viewpoints coming to them through two faculty members in the same class.

Equity and Inclusion in Higher Education

- The Directorate of Higher and Elementary Education must set up gender & equity cells and Special cells for inclusive education at State and District level for inclusive education to work in coordination with Samagra Shiksha.

- SCERT, teacher training, and quality interventions (pre-primary, elementary, and secondary) at Samagra Shiksha will ensure teacher training, providing support to the learning of children with disabilities at Preparatory, Foundational, and Secondary levels for teaching children with disabilities. Inclusive education interventions will focus on early identification and support services to children with disabilities.

- SCERT will ensure implementation of innovative teaching-learning methodologies for SEDGs as developed by NCERT.

- Index of Inclusion prepared by NCERT and UDISE+ data can be utilized by the state to identify the hindrances. The identified gaps will be utilized for providing accessible education to children with disabilities. Concerned NGOs working in the state to provide the support.

- SCERT to contextualise the NCF for school education and ECCE developed by NCERT in consultation with expert bodies such as National Institutes of DEPwD, etc.

- Action plan for mapping of requirements of students with disabilities

will be prepared and executed by SCERT at pre-primary, elementary and secondary levels with the help of special educators, school heads, CRCCs, and BRCCS. A guiding map will be followed by Samagra Shiksha to bridge the gaps.

- Efforts will be made by Samagra Shiksha to ensure that all students with disabilities are participating fully in school education by providing appropriate technology-based tools, as well as adequate and language-appropriate teaching-learning materials (e.g., textbooks in accessible formats) etc., by 2022-23.

- SCERT shall initiate concerted efforts for conducting short term and long-term training programs for teachers using the modules developed by NCERT and RCI on equity, gender, and needs of children with disabilities.

- Directorate of Higher Education and Elementary Education to create posts of special educators with cross-disability training at school complex/ cluster or higher education institutions to cater to the educational needs of students with disabilities of surrounding area.

- NEP implementation committee (Group II) would create awareness about all scholarships and other opportunities and schemes available to students from SEDGs when coordinated and announced by a single agency and website by DoSEL/ MSJE and State to ensure that all students are aware of, and may apply in a simplified manner on such a 'single window system', as per eligibility.

- In order to attain full inclusion and equity for all SEDGs and a change in school culture, NEP implementation committee (Group II) would facilitate SCERT to develop modules for sensitisation on social issues and stigmas, and Samagra Shiksha (TE and School Leadership academy) to undertake webinars and online workshops for teachers, principals, administrators, counsellors, and students to sensitise them on social issues and stigmas such as discrimination, segregation of disadvantaged and vulnerable groups, etc.

- NEP implementation committee (Group II) to coordinate with Samagra Shiksha/ DoE and would ensure introduction of the school curriculum

which will include material developed by NCERT on human values such as respect for all persons, empathy, tolerance, human rights, gender equality, non-violence, global citizenship, inclusion, and equity.

It would also include more detailed knowledge of various cultures, religions,

- Institutions should be provided resources for the integration of children with disabilities. To achieve this goal, recruitment of special teachers with cross-disability training should be undertaken.

- Teachers trained in Indian sign language should be hired in all HEIs and certificate/ diploma courses in ISL should be started at top institutions.

- Online modules in ISL should be encouraged for places where teachers trained in ISL aren't available.

Motivated, Energized and Capable Faculty

- An orientation program mandatory for the faculty before joining an educational institution. This orientation program can be focused on teaching/ learning methodologies and pedagogical methods, content creation and curriculum design.

- Selection of faculties must be based on objective criteria. Publications and SCOPUS indexed journals (40-40%), student feedback, pedagogic intervention and course quality (20-30%), institution building (organizing conferences and seminars, public lectures (20-30%). These numbers will vary based on how the institution wishes to be recognized.

- One can create rankings of journals in A, B and C types (readily available in many institutions). Publication should be recognized based on which quality of journal the publication has appeared in. It is the quality and not the quantity of research that should matter.

- Faculty could be internally recognized as 'teaching' v 'research' faculty, with mutual consideration. Those who are excellent teachers but not good researchers can be given max no of hours for teaching and their selection and promotion should be based on their course manual qualities, pedagogic interventions and teaching feedback. Those under 'research' category will be given less teaching load but with conditions of Scopus publications.

- Faculty recruitment should be done by a committee of faculty members

including faculty of all ages. Newly appointed teachers especially those from first- generation or marginalized sections, should be given academic support by appointing mentors to understand and grow in teaching profession.

- Compulsory orientation program should be held for new teachers at the institutional level.

- Awards like 'early career award' may be instituted at state levels as well as institutional level to promote research.

- Seminars and fixed days of orientation for getting acquainted with the latest technology of teaching and their respective subject for making classes more interactive and creative rather than loaded with information.

- Teachers must be encouraged to bring in an enquiry model of teaching where students are allowed to ask questions.

- A program to facilitate local language learning for teachers in HEIs may be instituted. This will help in effective communication with the students especially those who enter HEIs from Indian language-medium background.

- As the institutions under NEP will be classified as research-intensive universities, teaching universities, and autonomous degree-granting colleges; the minimum eligibility as the marks earned in the postgraduate degree can vary, with the highest score as eligibility for research-intensive universities.

- Ph.D. can be considered as an essential qualification for research-intensive universities.

- The performance appraisal format is cumbersome and needs revision.

- The faculty, as well as the head of the institutions need to attend 100 hours of professional development courses/ plans per year related to their subject/ specialization or administrative/ leadership/ gender sensitization/ environment/ management tools for institutions

- Faculty-student ratio

Under graduate- Humanities: 1:30, Science & Commerce: 1:20, Professional courses: 1:15

Post Graduate- Humanities: 1:20, Science & Commerce: 1: 15, Professional Course: 1:15

- Same grading system needs to be implemented across the country.

- Teachers can be given autonomy to choose pedagogy methods but not for choosing curriculum. Such a process is fraught with dangers. However, curricular autonomy within the given framework should be provided to the institutions.

Technology Use and Integration

- The procurement committee of any university should have some student body representation. The students themselves should choose their representatives in this regard (perhaps the student with recognized technology-related record). The presentations done by technology firms should be attended by students who will have a veto on whether to hire the firm or not. They should be made partners in technology selection process.

- Recording of live classes should not be enforced, although teachers who prefer not to be recorded while teaching must make a separate recording of the course content for the benefit of the students who are not in the classroom.

- Library records should be made online so that anyone can check whether a book/ resource is available and if yes, its location. Free software like Koha can be used to do this cataloguing.

- Websites should go to a faculty coordinator with support staff. They should have all the details of faculty (each faculty should have their own webpage with details on their qualifications with colleges where they studied, publications teaching, consulting pursuits and projects), courses (names and few lines on each course in each semester), admissions criteria and fee structure (with details), student numbers and their backgrounds, efforts done for promoting SEDGs, impact on the community around it, academic calendar, innovation and interventions, student's life, library

details, infrastructure relevant student/faculty policies and contact details.

- Suitable equipment must be made available to teachers at schools so that teachers can suitably integrate e-contents into teaching-learning practices.

- Better integration of technology-based education platforms such as DIKSHA SWAYAM across school and higher education

- Creating a dedicated unit for building of World-class, Digital Infrastructure, Educational Digital content and capacity

- NETF to implement action points as envisaged in the NEP. It will be implemented in a hub and spoke model, wherein all important tools/ software/systems/technologies will be at the hub and will be shared with /utilized by the spokes.

- National body to focus on online content development and delivery. Excellent use case is the National Programme on Technology Enhanced Learning (NPTEL), the areas to be extended more into law, public policy, social sciences, entrepreneurship and to have the Indian version of Coursera which is free and can be availed by any student in the country.

- Setting learning centers in specific institutes on topics like scripture engagement, teaching which are driven by new-age technologies.

- Recorded lectures and classes throughout school and university to benefit absentees and allow for more inclusivity (e.g. PWDs unable to attend in-person.

- Plagiarism detection software must be mainstreamed for undergraduate/ postgraduate teaching purposes. This will deter the students from unethically copying others' work. Basically, independent thinking and never copy attitude must be inculcated in the students right from the early stages of their learning.

- It is imperative to tap into the unmatched potential of digital education. In rural areas, there still remains a dearth of proper educational facilities/

infrastructure, which tends to lack of interest and ultimately dropouts, driving the illiteracy rate. Digital education should be developed not only in the primary stages but also in advanced levels.

- Funding for creating digital infrastructure in Rural/Backward areas must be allocated.

- A scheme like "Donate a Device" to be initiated where individuals/ organizations / NGOs can donate devices for underprivileged/ poor students.

- Sharing of infrastructure and academic resources amongst universities/ open universities (OUs) for collaborative multidisciplinary UG and PG programmes.

- A rich variety of educational software has to be developed and made available for students and teachers at all levels in all major Indian languages and should be accessible to a wide range of users including students in remote areas and Divyang students.

- Appropriate bodies, such as the proposed National Assessment Centre or PARAKH, School Boards, NTA and other identified bodies can design and implement assessment frameworks encompassing design of competencies, portfolio, rubrics, standardized assessments, and assessment analytics. Studies must be undertaken to pilot new ways of assessment using education technologies focusing on 21st

Global Outreach of Higher Education

- The website of every college must have course lists with credits, time-table/ schedule, visa and local registration information, contact details of international office, experience of past exchange students, logistics details.

- Quick replies to emails from foreign universities are a must. This office shall be empowered to engage with all foreign universities and proactively reach out to them.

- Faculty travels must be promoted by giving them funds to attend conferences abroad. Special fund pool could be created.

- Faculty members should be encouraged to get in touch and bring collaborations from their own universities where they have studied.

- The dean or the Head of Office of International Affairs will evaluate the courses which the Indian student will study (before she goes) and approve of the credits. In general, the policy adopted must be enabling rather than disabling.

- Continuous conversations with universities abroad will help build trust. They will approach Indian HEIs for such applications as and when they come.

- Faculty members could be sent to countries like Afghanistan, Bangladesh, Vietnam, etc., for faculty development on grants of various foundations.

The more Indian faculty travel abroad and teach well, the more our visibility will increase.

- Inviting top 100 global institutions to start their campuses and vice-versa. India needs to set up Indian institutes globally.

- Indian institutes must send their outreach ambassadors to global institutes to deliver seminars and must introduce the various programs they can offer exclusively.

- Setting up International student support office in major central universities which are focused on hosting recruiting and admission outreach sessions in the target countries.

- Joint Master's and Ph.D. program between two institutes with inter-country transfer of credits.

- Organize within the world economic forum or create a similar body like the world education forum and hold a meeting of leaders of education worldwide to say create a 5-10-20 year plan for making NEP 2020 come alive.

- India has many advantages that can be clubbed to develop a strong outreach plan for HEIs. The government should give equal opportunities to both public and private institutions to set up outreach plans. Some advantages to be explored and developed:

- Global Market Development to categorize countries into may be existing, potential and explore

  Existing- where there is a strong awareness and Indian student presence- the US, UK, Australia, and Canada.

  Potential – European countries Germany, Sweden, Finland, Netherlands, Denmark, Belgium to name a few

  Explore – Eastern European countries- Estonia, Poland, South Africa Asia-Malaysia, Vietnam

This categorization should be used to develop plans by country using a combination of SMEs, Consulate's in India and educational institutions and then plan the outreach

Can each Indian Embassy have a team that focuses on the outreach with the local institutions in that country?

- With the focus being on setting up interdisciplinary education one approach could be setting up institutions of excellence like the SOAS University of London (School of Oriental and African Studies) as a department in partnership with the global universities to focus on India. This may be an easier way to get a step into the door.

- Joint twinning programmes, which are a win-win for both the global and Indian institutions and mainly will benefit students. Credit transfers and Exit Awards together with twinning can be an approach

- While India has always had a huge number of students travelling abroad to study, likewise there is a huge population that has the potential but can't go abroad. Collaborate with global institutions in partnership or a joint certification for both Indian students and their students.

Promotion of Indian Knowledge Systems, Languages, Culture and Values

- Courses on Literature must involve Indian text, from Gita to Meghadutam. The study of Indic knowledge systems, cultures to be popularized in the early stages of education is a commendable initiative. However, the pedagogy must be focused on. It has been well documented how students lose interest in such areas, given the style of teaching, where the emphasis lies on assignments, higher grades.
- Making Sanskrit mandatory often discourages many Indian students to access our own literature. Let good translations be provided to them.
- It is important to pick up very good, native, indigenous translations of these texts. These translations should not offer any commentary or glorify the text but simply put it in another language for students to access it. Lengthy commentaries should be avoided.
- An excellent starting point is the research project of prof SN Balagangadhara and his co-authors in Ghent University. Courses on his work should be introduced in universities.
- Students must be able to discuss their experiences in family and these experiences become important for them in classrooms in discussions. This must happen as a matter of culture and not pedantically.
- Visits to artefacts and spaces which are truly Indian must take place in humanities subjects.
- Every student be assigned a faculty as his/her mentor, who will guide the student through her college life. Faculty members can have more

than one mentees, but they should engage with them individually. This relationship should be built with mutual respect in a gurukul fashion.

- Universities should have days in which parents and especially grandparents should be invited. Sometimes they should be made to sit in some classes with young people. This will automatically make universities more Indian.

- From Kautilya and Shankaracharya to Jiddu Krishnamurthy and Sri Aurobindo be taught, and new frameworks of ethics be brought into the classroom.

- Endowed fellowships and program for Indic research and learning should be promoted in collaboration with global institutes.

- Chairs should be established in all central and state universities that are devoted to research in Indic culture, History.

- Research Institutes of excellence should be devoted to preserve the literary heritage of Vedas and allied vedic literature and adequate funding should be made available for the same.

- Yoga should be taught to be adopted into daily lifestyle and not for additional grades. However, incentives can be given for the same. The integration of Indic knowledge systems – say, Ayurveda - needs to meticulously be thought about and designed to retain student's interest in it. Here, again, the focus should be on pedagogy.

- Classical dance forms like Bharatnatyam, Kuchipudi, Kathakali, etc., (that is local and native to the state), Carnatic music, native languages, etc., should be incorporated into the curriculum of lower and middle schools. Apart from enhancing the personality of the child, this will help enhance all the aspects of growth in a child.

- Educational tours must be added as a part of the curriculum. All teachers must get the facility to travel across the nation so that they can understand the diversity of our culture and language and can communicate the same to all students.

- Organizations which are working towards promotion of our Indian culture must have the facility of various types of awards.

Research, Innovation, and Rankings

- The structure, function, and the location of the NRF should be decided by keeping in view the spatial, disciplinary, and institutional diversities of the country.

- Investment in research and innovation in terms of GDP ratio has declined from 0.8% in 2013-14 to 0.69% in 2019-20. Given the importance of Research and Innovation for driving the growth of the economy, we need to increase the investment substantially.

- Multiple funding agencies (e.g. DST, DAE, ICAR, ICMR, ICHR, ICSSR, ICPR, UGC) and ministries should proof their Research budget and route them through NRF to priorities research in their thrust areas and avoid duplications of research.

- To promote research and innovation culture in the country there should be seamless interaction/mobility of research personal across the Government Research Institutions and Higher Educational Institutions and sharing of research facility and infrastructures.

- For optimum utilization of resources, common research facilities should be created throughout the country. While creating such facilities, economy of scale should be kept in mind to facilitate their sustainability and recovery of their maintenance and operational cost.

- A provision of 2-3 months' mandatory internship programme should be made for graduate and postgraduate students.

- Incentives (in terms of tax concession or other benefits) should be provided to Indian industries participating/conducting Research and Innovation in collaboration with Academic Institutions and government research laboratories.

- Doctoral research fellowship could be routed through project funding. This is because a large number of students qualify UGC-JRF and CSIR-JRF and many other kinds of scholarship without knowing where and in what topic they are going to pursue their research. Project-based funding of doctoral research will streamline the focus of research and innovation in the country and it will also reduce the attrition rates. A large number of students do not submit their Ph.D. ever even after spending 3-4 years in the campus and availing the full scholarships.

- An accountable and transparent system for evaluation of research funding and its final outcome should be established.

- Constitution of committee for preparing the draft or required legislation, guidelines, rules, etc, for the National Research Foundation with adequate representation to all spectrums of research.

- For fresh Ph.D. candidates, their universities and doctoral supervisors should have very good publication and research records. For others, their publications in SCOPUSZ indexed journals must be looked at. Even in SCOPUS, journal ranking categories of A, B, C be created. One article in A in one year is equivalent to two articles in B, and three articles in C. Institutions like IIM-A have these categories already defined which can be taken from there.

- Good research requires money and universities cannot expect to enhance their research without funding. Faculty members can compete to secure grants from within the institutions, to the order of 5, 10, 20 lacs for their research. These grants will come with the condition of publication in a good quality journal.

- A grade journal publication could be given the highest award, whereas smaller ones for B & C.

- Faculty members should be encouraged (by giving Conference funds)

to organize major conferences every semester in which foreign faculty should be invited.

- Universities should allow for opening up of incubation centers which should be headed by a motivated faculty. These incubation centers should attract funds from private companies. Students' start-up ideas to be funded and companies could be formed within campuses. MIT's model or even IIM-A's model is exemplary.

- Universities must be open to foreign scholars visiting.

- There should be clarity on the liaison between government/ industry/ scientific bodies and researchers in HEIs. Establishment of Biotech parks and incubation centers should be promoted in every university and institute. It is essential to develop entrepreneurship culture and there should be incubation centres in research institutions to promote start-ups

Integrated Higher Education System

- Young dynamic faculty members should be encouraged to go and teach in different universities as visiting faculty.
- Experienced, illustrious, respected faculty members should give imagination of teaching to young teachers at the beginning of each semester through a seminar and conversational dialogue.
- Most technology training is done as one-way instruction. Instead, these seminars should be organized like workshops in which faculty members are made to use the technology in classrooms. Those who know the technology should be paired up with those who don't and learning should happen in a dialogic format.
- Encouragement of Faculty members to make industry linkages can be done only if universities allow faculty members to take up consulting assignments in government and industry. This enhances their network which can be used for employability of their own students.
- There are many software and tools which open up different ways of teaching in a classroom. These could be subscribed to, with free and purchased versions.
- Every semester, few good teachers based on students' feedback and/ or based on course manuals should be recognized.
- HEIs including professional institutes should bring changes in their

curriculum to provide options for students to undertake certain percentage of courses of their choice or as per need.

- There is an immediate need of bringing changes in curriculum designs of these degree programmes/courses to make them integrated and multidisciplinary in real sense. Curriculum should be made flexible, ending fragmentation and giving choices to the students.

- Rural attachment / internship for the students of all the professional course must be made compulsory- Action at university level with policy support from the respective professional bodies.

- To frame regulations for Vocational and Skill development courses (NSQF) through ODL mode to ensure flexibility, access, and equity

- Recognition of Prior Learning (RPL) Assessment through Skill Credit Bank for bulky base may be tested and approved for National Skill Qualifications of NSQF levels

- Centre to give the directions for RPL vertical mobility including credit Transfer

- Instead of calling it VET (Vocational Education Training), we may call it CET (Career and Technical Training)

- Success stories/Best practices of Alumni of VET institutes working in Blue Chip companies or having established own Unicorn companies may be promoted, communicated among new students.

- To notify regulations for incubation centres setting up in higher education institutions in partnership with industries.

- To notify proposals for credit transfer, equivalence, etc. through the NHEQF

- The best performing Skill Universities/ Vocational Institutes of repute can be made mentor of all clustered HEIs.

- Centre level training may be designed for orienting HEIs and their faculty

with NSQF/ Job roles/ Qualification Packs/ National Occupational Standards etc.

- Teacher education in professional programs is complex and contextualized. Pedagogical content knowledge along with knowledge gained by apprenticeship, skill focussed courses adds to teachers within a model of vocational pedagogy and vocationally grounded assessment approaches. So, it is highly important that teachers' education programmes must be revisited, relooked and reviewed.

- Vocational education needs to be integrated into all school and higher education curricula. In multidisciplinary institutes, HEIs, there can be a number of skill/ vocational education trades available with all possible resources for nationwide scope in general and local specific (regional or State-specific) scope in particular. Every student of graduation including persuaders of TEP should be asked to complete 8 credit course related to vocational education / skill education/ employability.

- 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.

Governance and Regulation

- Regulatory bodies like UGC/HECI need to make regulations to provide a four- year UG degree programme with research followed by one- year master degree along with a 5-year integrated Master's degree at the earliest and to provide a framework for empowering HEI for flexibility in curriculum on the one hand and student-centric pedagogy on the other.

- The central government should create a special purpose vehicle like National Academic Depository at the earliest to launch Academic Bank of Credit.

- The regulations for ABC shall be issued at the earliest to determine eligibility and open memberships to various universities. The regulations should indicate clearly that the universities who are members of ABC cannot refuse award of degrees to any student who has accumulated sufficient number of credits.

- Accreditation and validation of UG/PG programmes by the international agencies for acceptance of ODL and online degrees in foreign countries while regulatory framework to ensure integrity, transparency, and resource efficiency is required. Only highly accredited institutions to be allowed to run ODL/online programs to be mandatory.

- The government to bring out a Bill on HECI and its 4 agencies i.e. NHERC, NEC, HEGC and GEC. The Bill shall clearly define the role and purpose of each organisation to ensure that there is no overlap.

- While configuring the HECI, it is recommended that there need to be Statutory legal provisions that HECI would be evolved as a Federal body

incorporating the present State Higher Education Councils in all the States with powers to coordinate with HECI and to act as the State level implementation Council in accordance with the norms of HECI.

- The HECI, the overarching body shall be managed by academicians with administrative experience, with nominees of all the State Higher Education Councils instituted by the State Governments.

- When AICTE and NCTE will merge with UGC to form HECI, the mechanism for having a PSSB for Engineering and Technology and teacher education should be created.

- HECI should be headed by a reputed academician. Responsible for coordination of the verticals and to make sure that they " work in synergy towards common goals".

- The institutional development plan (IDP), after reviewing by the BoG, must be made public. Measurement of academic outcomes, including the promotion of diversity should be standardized.

- HEGC should focus on institutional (including scholarships) or programmatic grants and should only fund public institutions. RUSA and other funding agencies should be folded into HEGC.

- NRF should focus on project grants and should fund both public and private HEIs.

- The alum must be selected based on who the present students want to represent their Board. This will arrest corruption and nepotism.

- Various committees in universities and colleges must involve students which impact their own career and welfare. They may not have a veto but definitely a vote.

- Faculty recruitment should be taken out of the hands of the university leadership to some extent. It should be done by a faculty committee who will be rotating. The vice chancellor or dean can be part of the committee.

- Universities are public bodies, and hence, all their information should be made available on websites (including various policies). Data collected by accrediting bodies should also be made public. Students and faculty should be able to access every meaningful idea about the institution.