IMPLEMENTATION OF NATIONAL EDUCATION POLICY-2020 IN HIGHER EDUCATION: SOME STRATEGIES

RAGHUNATH K SHEVGAONKAR

Vice Chancellor, Bennett University, Greater Noida Professor Emeritus, IIT Bombay Former Director, IIT Delhi, Former Vice Chancellor, University of Pune



ASSOCIATION OF INDIAN UNIVERSITIES NEW DELHI (INDIA)

Scholarly Essay from the Book, 'National Education Policy–2020: Transforming Higher Education in India', Editors: Pankaj Mittal and Sistla Rama Devi Pani, Publisher: Association of Indian Universities, New Delhi (India), 2021. ISBN No. 81-7520-162-2

PROFILE OF THE AUTHOR

Raghunath K Shevgaonkar

Prof Raghunath K Shevgaonkar is Vice Chancellor, Bennett University, Professor Emeritus, IIT Bombay. He is former Director IIT Delhi, Vice Chancellor of University of Pune, and Deputy Director, Dean Resource Mobilization, Dean Student Affairs, Head Department of Electrical Engineering, Founder Head of Centre of Distance Engineering Education Program etc., at IIT Bombay. He is a Fellow of IEEE, Indian National Academy of Engineering, National Academy of Science, India, Institution of Electronics and Telecommunication Engineers. Optical Society of India, Institution of Engineers, Maharashtra Academy of Sciences, and Member of International Astronomical Union and Astronomical Society of India. He is a recipient of IEEE William E. Sayle II Award for his Achievements in Engineering Education, IEEE Undergraduate Teaching Award for his inspirational teaching, S N Mitra Memorial Award of Indian National Academy of Engineering for his contribution to electromagnetics, antenna and radio astronomy, Ram Lal Wadhwa Award of IETE for his outstanding contribution to Optical communication, VASVIK Award in ICT, and the 'Excellence in Teaching' award of IIT Bombay. He has received the Education Leadership Award from Headlines Today, and Dewang Mehta Educational Excellence Award. His video and web lectures on Electromagnetism and Fiber optic communication are used worldwide through YouTube.

IMPLEMENTATION OF NATIONAL EDUCATION POLICY-2020 IN HIGHER EDUCATION: SOME STRATEGIES

Raghunath K Shevgaonkar

The NEP-2020 envisions India to become a global knowledge powerhouse in next few decades by giving a special thrust on creating academic leadership and enhancing employability of the university graduates through vocational training. It is trying to make education more inclusive and accessible. However, since implementation of an education policy is a gradual process, for the success of NEP-2020, not only the current government but many successive governments will have to be equally committed. If vocational training is to be integrated with the regular degree programmes, we will have to create infrastructure for vocational training. For making the Indian higher education globally competitive, the universities will have to be free from political influences, and should be academically, administratively and financially autonomous.

IPRELUDE

After 34 years, India has gotten a new education policy called the National Education Policy–2020 (NEP–2020). The policy has proposed many transformative reforms in education systemof India. While substantial thrust has been put in redefiningthe school education, there are recommendations for increasing the gross enrollment ratio in the country and making the higher education forward looking. The policy envisions India to become a global knowledge powerhouse in next few decades by giving a special thrust on creating academic leadership and enhancing employability of the university graduates through vocational training. The NEP–2020 has tried to make education more inclusive and accessible.

It has tried to bridge the societal gap that exists due to geographical, economic or some other reasons. The policy has also provided a strong emphasis on holistic development of the country's youth by imparting appropriate knowledge about India's rich culture and heritage.

The NEP-2020 document has received appreciation from a wider section of the society as by and large, the policy seems to be addressing the right issues faced by the Indian education system and therefore can transform it to become globally competitive. However, it may be recalled that many of the NEP-2020 recommendations were made by the previous education policies also but due to implementation or non-implementation, the education system could not achieve the global stature. The NEP-2020 also faces the same implementation challenge. Since implementation of an education policy is a gradual process, for the success of NEP-2020, not only the current government but many successive governments will have to be equally committed. Even if we assume the commitment from the Governments, there are certain recommendations that need to be analysed threadbare to understand challenges of their implementation. In this article, we discuss some of the main issues that require deeper discussion, and their possible solutions.

MULTIPLE ENTRY MULTIPLE EXIT (MEME) OPTIONS AND INTEGRATION OF VOCATIONAL TRAINING

NEP–2020 has proposed multiple entry and exit options in a degree programme. For a 3-year degree programme, it is proposed to have exit options after 1st and 2nd years. A student will be given a certificate after 1st year while after 2nd year he/she will be awarded a diploma. It is envisaged that the students with a certificate or a diploma would be able to find a suitable job, which could be something that they desire to do. Students will be allowed to leave the programme with appropriate certification, which would enable them to return to itin later years if they wish to. The main idea is to allow students to complete their degree programme with flexibility, which is desirable because there is a large section of society where children do not have the luxury to receive financial support for their education from their

parents. On the contrary, many a times the children have to earn not only their living but of their parents and siblings as well. A very large dropout number after primary and secondary schooling is a clear reflection of this. The recommendation of multiple entry multiple exit option in a degree programme therefore is highly welcome as it brings inclusiveness in higher education.

While from a societal angle this is a highly commendable move, there are academic as well as financial implementation issues. On the academic front, it needs a complete new thinking in programme structuring. The conventional way of structuring a degree programme cannot work with the MEME scenario. Similarly, an institutional planning may require different approach so that the variability in student numbers due to MEME does not impact the quality of education.

Curriculum Design

One of the important aspects of MEME will be that the curriculum should become modular. After every year, the curriculum should enhance the capability of a student from the employment viewpoint. The 1st year certificate should make a student capable of finding a job of appropriate skills. After the $2^{\rm nd}$ year, with a diploma, a student should acquire some advanced skills. The $3^{\rm rd}$ year shouldgive a deeper understanding of the subject to qualify for the degree.

In current degree programmes, the sequence of courses are considered in a comprehensive fashion, i.e., the courses at elementary level are taught in the first year and the level of courses increases with the years. With this progression, a certificate after the 1st year or a diploma after the 2nd year may not make a student employable. In fact, it may not have any value in the market except that it can be used later for resuming the degree programme.

If the objective of the MEME option is to help people acquire some employment while working towards a degree programme, the curriculum should blend vocational courses in the curriculum. The first two years of a degree programme should have about 50 per cent

vocational courses placed in such a way that the students can find appropriate employment with the acquired skills. The final year of the degree programme can have only degree level courses. A very wide variety of contemporary vocational courses that can complement or supplement their degree subjects should be made available to the students.

This will be a radical change in the curriculum design. The curriculum pyramid will have to be inverted. The regulator can facilitate creation of model curricula with the inverted learning pyramid. Even the internships sequence has to be inverted, i.e., more internships to be included in the earlier years of the degree programme rather than later years.

The curriculum design as such lies within the purview of a university. However, some uniformity in exercising the flexibility of entry and exit option and its validity for acquiring a degree will have to be worked out by the regulatory bodies. For example, total number of credits and the percentage of the vocational component in each year of a degree programme should be uniformly decided by the regulator. This will facilitate the students to carry their certificate or diploma from an institution to any other institution of their choice for getting a degree. Of course, this will require a credit transfer policy to be in place (will be discussed later). So, in the new curricular structure, every student will have to be awarded appropriately a certificate or a diploma or a degree. If a student completes the degree programme at one stretch, he/she still will have certificate and diploma with him/her, the use of which will be at the discretion of an individual.

The in-depth subject development should be more a part of the postgraduate programmes.

Vocational Training Centres

At present, the vocational component is totally missing from the degree programmes. Also, the vocational institutes that exist, are mostly outdated. If vocational training is to be integrated with the regular degree programmes, we will have to create infrastructure for vocational training. It is not financially viable for individual institutes

to create a wide variety of vocational training facilities. In view of this, there is a need to come up with more innovative models for imparting vocational training to the students of a degree programme. This can be done in any of the following ways:

Government creates vocational training centres with state funding that will be shared by a cluster of universities/institutesin the vicinity on payment basis. There is also a possibility of imparting vocational training in online mode at least for some vocational subjects. Since now the vocational training will be a substantial fraction of the main degree programmes, a large number of vocational trainers will have to be created in addition to the vocational infrastructure.

A cluster of universities in physical proximity pool theirresources to build vocational training centres in their vicinity that can be shared among themselves. Currently, most of the non-technical degree programmes do not have any laboratory component. However, with this new model, vocational hands- on training will be an integral part of a degree curricula which may increase the cost of the degree programme.

Local industries can play an important role in creating vocational training facilities. The industries can either pool resources to build vocational training centres or provide vocational training in their premises within their respective technical domains on chargeable basis. The active participation of the industries will automatically keep the vocational courses updated and contemporary.

Universities may partner with the existing Skill Universities where the students could undergo training for some duration as a part of their curricula. However, as mentioned, most of the existing vocational training centres offer outdated programmes. A substantial revamping of these institutions will have to be taken up for making this option attractive.

Institutional Planning

One of the most important aspects of MEME is the institutional planning. Currently, the institutional planning is done with an

assumption that students admitted to a degree programme are going to go through the programme without any break. The multiple entry and exit option creates difficulties in institutional planning, like the number of faculty, infrastructure etc. While things may get levelled out in long run once the system reaches a steady state, in the initial stages of implementation, there has to be some financial as well as regulatory support from the Government.

CREDIT BANK AND MOBILITY OF STUDENTS

NEP-2020 has strongly advocated the idea of student-centric education system. Students will be empowered to decide the curriculum they would like to go through to make the education not only employable but enjoyable too. The students should be allowed to choose not only their courses but faculty and institutions as well. It has therefore been suggested that students will be given a flexibility in earning academic credits from multiple institutions for award of a degree. It has been suggested that there will be flexibility in transfer of credits among different institutions. Students can create a credit bank where credits for various courses from multiple institutions can be accumulated over certain period of time. Once the sufficient number of credits is accumulated, the students can obtain a degree from a university.

There are major issues in implementation of this policy and the Regulator has to play a crucial role in realising the objectives of the policy.

Uniform Credit Framework

Currently, there is no uniform credit framework in the country. Some institutions follow 'marks system' whereas other follow the 'letter grading system'. For a system of credit bank, a uniform credit system will have to be developed across the universities. For defining a credit, generally a semester is considered to be of 15 weeks' duration. One classroom contact per week for a semester is called one credit. The tutorial component of a course also follows the same definition

of a credit. For a laboratory however, one contact hour per week is taken as 0.5 credit. It is assumed that a student spends equal amount of study time on a course outside the classroom or laboratory. This definition of a credit is more or less universally accepted. For projects and internships, appropriate credits are assigned depending upon the quantum of work a student is expected to do per week. Generally, students take 15 to 20 credits of academic load in a semester. Typical degree programmes have about 40 credits per year giving about 120 credits for a 3-year programme and about 160 credits for a 4-year programme. The same credit definition is followed even for the postgraduate programmes.

Uniformity of Academic Standard

With time, the 10-point letter grading system is gaining popularity. UGC has defined the letter grading system that will have to be uniformly followed by all the institutions, irrespective of their discipline.

The most important aspect of the letter grading system is the 'relative grading'. As the name suggests, the relative grading system assesses the performance of a student relative to the other students in that group. Different institutions use different models to convert the absolute performance into the relative grades. However, once the letter grade is given, there is no way to find the performance of a student on absolute scale. It is highly desirable to evolve a grading system that takes into consideration a combination of absolute and relative performance so that grades from different institutions are directly equated.

Alternatively, university groups that have similar academic standard for grades will have to be identified/created among which the credit exchange is seamless. The similarity of academic standards of different institutions may be established by the accreditation process. Portability of credits may happen within NAAC accredited institutions with similar grades. It may be appreciated that without a proper quality standard for the grading system, the Credit Bank concept may not achieve its objectives.

Award of a Degree

It should be clearly defined which university will grant a degree on the basis of the accumulated credits. If there is no clarity on this aspect, students, after accumulation of credits, will not know how to get a degree! Ideally, after accumulating the required credits, a student may approach any of the peer universities and acquire a degree. However, an institution may not see any value, either academically or financially, in awarding a degree to a student whohas not done sizable credits with that institution. Therefore, therehas to be a regulation clearly defining the process of obtaining a degree after accumulating required number of credits. It may appear logical that for an institution to offer a degree, a student should have done at least 50 per cent of the total required credits with that institution. However, this needs a debate to reach to some consensus.

Alternatively, separate universities for awarding degrees based on credit bank can be established in the country. The main concern however would be that the market may start perceiving these degrees differently than the normal university degrees and the purpose of the academic flexibility through the credit bank would be lost.

MULTI-DISCIPLINARY EDUCATION

The NEP–2020 has given special thrust on making higher education multi-disciplinary. It has also emphasised a special need to enhance the liberal arts' component in degree programmes to make the students culturally and socially aware. The recommendation has two-fold implications. One, it discourages institutions with solitary disciplines, and two, it desires strong interaction between different departments of an institution.

A multi-disciplinary education is desirable for proper employment and strengthening natural capabilities of an individual. In real life, problems are never straight jacketed in a single discipline; they are mostly at an intersection of multiple disciplines. For example, a product development may need a knowledge of mechanical, electronics,

computer, techno-legal aspects, finance, marketing, sustainability etc. The students therefore should be given opportunity to strengthen the aspects that they feel are important for their professional as well personal development.

While an individual prepares oneself for professional success through multi-disciplinary education, one might like to acquire proficiency in one's passion. A flexible multi-disciplinary education therefore is the core of a student-centric system.

Minor Degree Programme

One of the ways to introduce multi-disciplinarity in a degree programme is to introduce the concept of a 'Minor degree'. A structured set of courses can be offered by a department for a student to qualify for a Minor-degree. For example, a department of Law can design a set of courses worth 20 credits that any engineering student can take and get a Minor degree in Law along with his/her main degree in engineering. AICTE has already permitted such provision albeit within engineering and management only.

Open Electives

Each degree programme can keep a provision for a large number of open electives. These courses need not have a structured sequence and can be chosen by the students as per their wish. There will not be any special mention (like that in case of a 'Minor degree') in the degree certificate but a student will be empowered to select his/her basket of courses.

Learning by Doing

As mentioned earlier, real-life problems always cut across multiple disciplines. A project-based learning automatically exposes students to multiple disciplines. This will also help students to develop a holistic vision for real life issues and their solutions. In this context, it will be desirable that the students are asked to work on contemporary societal issues during their internships and projects.

Multi-Disciplinary Faculty

To impart multi-disciplinary knowledge to the students, it is important to get faculty who have worked across multiple disciplines. Such faculty may be hired as a joint appointment between departments who would also help in the migration of ideas from one discipline to another. Experts that have multi-disciplinary approach are generally found in industries. Involving industry personnel in teaching at universities will enhance the multi-disciplinary culture at the universities. One of the biggest hurdles in getting industry professionals in university teaching however is their non-PhD qualification. Regulatory bodies should allow flexibility in PhD qualification for experienced industry professionals.

Online Courses

Technology is the best solution to introduce multi-disciplinary culture in an institute. Online mode of education not only facilitates multi-disciplinary curricula but expands the horizon of the students beyond the boundaries of their departments and even their institutions.

There is a wide variety of online platforms that provide access to the best academic content from across the globe. Currently, there is some apprehension about using the online content in regular curricula. However, technology enhanced learning is the solution to make the quality education scalable and affordable to wider section of the society.

FACULTY AND ACADEMIC LEADERSHIP

The NEP–2020 has provided a special thrust on building academic leadership and faculty training. Faculty is the backbone of an academic institution. Faculty inspires generations of students and therefore have a multiplicative effect. Ideally, the best brains should be recruited as faculty. However, the reality is far from this. Leaving some handful of institutions, the faculty quality in Indian universities requires significant improvement. Teaching job probably is the last option in the minds of graduating students. This is primarily

due to disparity in perks that an academic receives compared to an industry professional. After 6th pay commission, the faculty salaries got some boost, but its implementation is mostly seen in the public institutions. In private universities and institutions, the faculty are mostly underpaid. In spite of strict regulatory requirements for accreditation, many private institutions exploit faculty without giving proper compensation. Some of this can be attributed to the improper financial model for educational institutions. This aspect will be discussed in the subsequent section.

Today, there is acute shortage of qualified faculty in the country. To attract the brightest minds to the teaching profession, university jobs will have to offer not only competitive perks but also an intellectually stimulating research environment. After completion of graduation and post-graduation degrees, the brighter students should have equally exciting and lucrative career options from academia. These minds should be attracted to academics through special incentives. In fact, those—students who have some inclination towards teaching as a profession should be mentored during their student days and motivated for adopting teaching profession. They may be involved in teaching activities even during their post-graduation years.

Academic leadership is highly important for building an institution. There are ample examples that demonstrate that proper leadership has transformed the institutions. The leadership in Indian academics has two problems. One, there is no formal process of mentoring academic leaders. Second, due to political interference, non-deserving people are put in top leadership positions.

The first problem can be addressed by creating training programmes for deserving faculty to become academic leaders. The faculty that possess some leadership characteristics are to be nurtured and guided for higher leadership positions. It may be pointed out that a high achiever at personal level may not always be the best choice as an institutional leader. A right balance of academics, ethical values and ability to take people along, are some of the essential characteristics of an institutional leader.

The second problem is related to the administrative autonomy that an institution enjoys. Today, on paper, universities are fully autonomous entities. However, in reality, there is political interference at every stage of university functioning including appointment of vice chancellors, deans and other functionaries. By empowering the apex bodies of institutions that consist of eminent academicians, industry professionals and distinguished personalities in society, institutions can be made free of political interference.

FINANCIAL MODEL FOR HIGHER EDUCATION

In the 21st century, the students' aspirations and expectations are very different. Students expect state-of-the-art facilities for academic as well as extra-curricular activities in an educational institution. From the 'brain drain' viewpoint also, an experience at par with that of an international university is desirable.

The NEP–2020 has a little discussion on the role of private universities. Many of the recommendations appear to be made keeping in view the public funded institutions. Presently, more than 70 per cent educational institutes in India are in the private domain and many of them are not financially viable. They have minimalistic infrastructure and substandard faculty.

To build a university of global standard, one needs a robust financial model. Unfortunately, the NEP–2020 has not provided any financial model for a university. The policy has reiterated that the education has to be philanthropic. The spirit of this is well appreciated as it prohibits commercialization of education. However, non-commercialisation of education means a university should be non-profit making. It need not be philanthropic. Even to encourage philanthropy through donations to educational institutions for building large corpuses, the tax policies need extra support for the education sector.

Many private players are willing to invest with non-profit motive but there has to be a revenue model for sustaining a university. The ceiling on the fees by regulatory bodies makes the quality universities become financially unsustainable. It is important to note that quality education comes at a price. It is desirable that instead of capping the fees, Government creates ample avenues for self-financing education through low interest loans with minimal collateral. If the NEP–2020 has to succeed, a special thrust on building a sustainable financial model is essential. In absence of adequate funding possibilities, many of the recommendations of NEP–2020 may remain only on paper.

Scholarship and Free-ship Schemes

The policy has proposed that students should be provided fee waiver and merit-based scholarships. Scholarship schemes based on merit or merit-cum-means are desirable in any educational institution for inclusiveness. However, in self-financing institutions which have no source of funding other than the fees, the financial burden of the scholarships will be transferred to the remaining students, and their education will become unaffordable. The scholarships proposed by NEP-2020 will have to be absorbed by the government to make scheme financially viable for the universities that are fully self-financed. It may be noted that for the institutes of national importance, (that has substantial postgraduate component), the revenue from fees is not more than 20 per cent of their annual budget. The major component of the expenditure is the salaries of the faculty and the staff, and that is subsidised by the government. Since private institutions do not get any subsidy, a uniform scholarship model may not be imposed on them. The choice of offering scholarships should be left to the management of the institutions. The institutions may be encouraged to explore sponsored scholarships from charitable foundations and individuals.

CONCLUSION

There are many other issues that will have to be addressed for effective implementation of the NEP–2020. However, many of the issues will automatically get addressed if the autonomy that the policy envisages for higher education, is implemented in spirit and action. The autonomy has been existing on paper even prior to NEP–2020 but it is minimally effective. NEP–2020 implementation will have to

reassert minimal regulation but maximal accountability. For making the Indian higher education globally competitive, the universities will have to be free from political influences, and should be academically, administratively and financially autonomous.

E-Advance Readers' Copy of the Essay from the Book 'Implementing National Education Policy—2020 to Transform Higher Education in India', Editors: Pankaj Mittal and Sistla Rama Devi Pani, Publisher: Association of Indian Universities, New Delhi (India), 2021.