1. Introduction

Government of India has long been focusing on strengthening the education system, at different levels, to appropriately make use of its demographic advantage of having about 50% of youngsters in the age group of 29 by 2020 as well as position itself ahead of other countries as a strong knowledge economy that scales up.

However, the education system faces a number of challenges ranging from inadequate funding, outdated curriculum, ineffective delivery mechanisms and increasing influence of private sector in education that focuses largely on monetization and so on.

Ongoing discussions to draft a new education policy (NEP) is welcome, provided it addresses the challenges of future education based on foresight, listens to current and emerging trends of progressive education models keeping in view the interests of the millennials.

The present note is an attempt to contribute to ongoing discussions on shaping the NEP that is responsive, reliable and responsible, tailored to the needs of India during coming two decades. The note deliberately avoids providing a broad-brush approach to innovation but aims to make specific recommendations on three specific aspects for future education, i.e. disruptions that are currently happening in the learning space - diminishing the role of teaching and replacing the same with learning and mentoring, the emerging career and job market - a space that is fast changing challenging the educator’s ability to respond to future jobs and lastly the needs and options for uncommon interventions to mentoring that combines the

\[1\] Dr. Balakrishna Pisupati is Chairperson, FLEDGE and can be reached at pisupatabalakrishna@gmail.com
social media space with tailor-made, need-based course development with innovative design and delivery.

2. Background

According to a report launched by Deloitte in September 2017, India has a median population age of 27.3 years compared to that of 35 years for China and around 47 years for Japan. It is estimated that India has around 390 million millennials and about 440 million in the Gen-Z cohort. About 12 million people are added to the working age population every year. Demographic growth is significant as it is intrinsically linked to economic growth and therefore, cannot be ignored.

However, the Annual Secondary Education Report (ASER), 2017 indicate the demographic dividend can become a nightmare if we do not appropriately educate our youngsters in basic skills of math, language and basic knowledge in sociology and the related.

The results of a student-centred survey led by FLEDGE, as contribution to the NEP (comprising students ranging from 6th class to doctoral studies) indicate that about 69% of the students surveyed (across India, both rural and urban) feel that the course design is at fault, followed by 58% who feel the delivery methods of education is a problem. Fifty-seven per cent of the students surveyed want new courses while 49% of them wish complete over-haul of the course content, 43% aspire for flexibility to learn.

The survey also throws up some interesting insight into current student interests such as 60% of the students wishing to study in India, 58% of them feeling that the current teaching methods are out-dated, 53 % of them wishing to take new, additional and innovative courses outside the school or university system and about 41 % of them are willing to spend anywhere between Rs. 2000 - Rs. 5000 for this additional learning.
The survey also indicated that students are looking for innovative courses that enhance their skills such as crime scene management, neuroaesthetics and diplomacy. Such courses in our regular streams of study and curricula are unheard of until now and it is not easy for any educational institution to design and offer such courses on their own.

3. In-store

With 65% of children predicted to have jobs that don’t exist yet, one of the key challenges will be to undertake a foresight analysis of careers and job options for children in individual countries.

A quick glance of future jobs, as they will be a reality by 2030, indicate job titles such as drone traffic managers, corporate disruptors, urban shepherds, microbial balancers and the like. We are definitely at the loss if the NEP does not only provide policy suggestions and implementation recommendations for dealing with this emerging opportunity and challenge.

However, two specific issues need to be addressed before making the policy recommendation. An assessment of ability of the Government to absorb the innovation and disruption to current style teaching, education and a complete over-haul of our teaching methods and styles.

In spite of India housing more than 700 universities and 35,000 affiliated colleges—enrolling more than 20 million students—the education spend has been quite low per capita. On an average, the total spend in US by Indian students is about Rs.40000 crores while the total education budget in India is Rs. 30000 crores which is combined of both public and private sector.

India also have opened up education space to private sector. In 2014, we had 777 universities — 443 public and 334 private. By 2019, the estimates are that we will have more private universities than public universities with 85% students studying in a private college or a private university. By 2028, India will have 350 million
passing through the education system and looking for employment. India doesn't create more than 4-7 million jobs a year now.

4. Future Education

Given the above, the following are suggestions and recommendations that are made for consideration while drafting the NEP.

a. Innovations in learning and mentoring

Growth of online and remote learning options have immensely increased in India with limited focus on need-based, structured interventions. The online market for primary and secondary supplementary education is estimated to be USD 73 million with annual growth rate of 60% while re-skilling and online certifications account for USD 93 million with annual growth rate of 38%. Regional language options, casual learning are areas that are still unexplored.

One hundred and twenty-five education startups were funded between 2014 and 2016 with total investment of USD 256 million that equals to Rs.1664 crores, Rs. 164 crores more than the Government budget. However, a large segment of this is related to preparing for tests and examinations. This a worrisome trend when the objective of innovation in education in any country need to be skill development and re-skilling.

If we consider education in streams such as agriculture, engineering, management and others, the level of innovation in teaching and number of new courses that are available in areas such as big data, robotics, artificial intelligence, biomimicry, intellectual property rights, science management, behavioural sciences are almost non-existent.

In order to include such and other skill-based courses for future development, current education structure needs an over-haul to decide on what not to teach (from the current stream) to what to teach (the new stream). With lack of
capacities and trained teachers, current establishments will need significant investments and focus on re-training the teachers which will be time-consuming and expensive for the public-sector universities while for private sector universities these courses may not make much monetary sense to invest in.

Given this, the NEP can look at the following options:

Partner with private and knowledge-based institutions, including private sector, to design a bouquet of specific courses, tailor-made to needs of specific streams of studies and offer them as electives and/or optional courses, both as a component of existing course material or outside the course time. The initiative has to be closely monitored for quality and innovation in delivery that can be streamlined easily with subject-specialists designing and offering the courses.

Such courses will be tested for their relevance, re-designed or removed based on emerging trends in needs and requirements of careers and markets. This would minimize the need for large funding and tops-heavy approaches for universities and colleges in developing and offering these courses.

The selection, design, content, evaluation and impact of these courses could be directly supported and facilitated by the Ministry of Human Resource Development who will be an equity partner in this initiative than merely having a monitoring and regulatory oversight.

Additionally, courses can be designed in regional languages, offered in type ‘B’ and type ‘C’ cities and in rural areas with needed modifications making these courses locally relevant and responsive.

b.  Preparing for future jobs

With a clear indication of our current inability to predict future jobs, the NEP could consider the following:
Establishing a ‘Cell’ at the Ministry of Human Resource Development that will urgently develop a foresight analysis of current and future career and job markets in India until 2050 and invest in developing and networking with expert agencies, including the private sector, to prepare a future job option list and develop courses, train mentors and identify delivery of these courses effectively.

The ‘Cell’ could function as a cross-cutting knowledge enabler drawing emerging needs and building expertise in specific areas such as climate science, artificial intelligence and the like so that it can provide two-pronged strategy for development - for education and skill development as well as providing needed inputs in specific sectors and ministries in their future planning. In fact, Government of UAE has already established such a mechanism by creation of a separate Ministry to prepare UAE for 2070 where in Ministries such as Ministry of Artificial Intelligence and the like are key players in this area.


It has to be noted, however, that the ‘Cell’ should be independent, progressive and provided enough freedom and authority to deliver its mandate that is cross-cutting and inter-ministerial.

c. Innovation in design and delivery

Any success to achieve the above depends on our ability to re-design our system to innovate in both design and delivery. As mentioned previously, the student survey conducted by FLEDGE in 2018 indicate that the students are unimpressed with current methods of course design and delivery with calls for change.
The following are some uncommon approaches to dealing with disruptive design and delivery of innovations in education.

**i. Use social media progressively towards education space.**

Available options of using web-based platforms including the SWAYAM platform has to be audited for the relevance of its content, use and usage. Being a government supported initiative, indications are that universities and educational platforms are merely providing courses that they offer in the platform with limited assessment of their use and applicability in improving innovation and knowledge systems.

With limited incentive to invest in developing new and innovative courses, SWAYAM may soon turn into a number-based, tick-the-box option for online learning that will jeopardise the intent of establishing the same. Using crowd-sourced course content can be an option to begin with to use social media by the Government with appropriate mechanism to incentivise quality course development and offerings.

**ii. Develop a network of experts, professionals and practitioners who can mentor students on a need-based system.**

In the absence of programmes such as ‘Practice Professors’ in Indian educational systems, time has come for us to make use of hundreds of thousands of experts - who are not essentially teachers in classical terms, but provide excellent learning and mentoring support- to provide their expertise and time to mentor and train students. These experts can range from progressive farmers to retired senior professionals who have expertise and many times intent to use their experience appropriately.
We need to create a platform to connect such people with students who are keen to learn, experiment with real-life situations and succeed. With current technological advancements and intent of students to spend both time and money to learn new and skill themselves, this can be a win-win option for using the available expertise in the country that is largely wasted while the need for their experience is imminent. This can also usher a new era in our education sphere.

5. Conclusions

Though this note, as mentioned earlier, does not focus on several related elements that need consideration by the NEP, it provides some snippets of options and actions for consideration and mainstreaming within NEP as appropriate.

It will be a matter of time that several of these issues will gain attention both within India and outside where private sector is keen to invest in innovative education. However, with public sector institutions having a societal obligation to prepare country’s youngsters, it will be appropriate for the Government to invest in these approaches and NEP is a great opportunity that cannot be missed.