National Education Policy, 2020

Use of Technology in enhancing access, equity and quality

Background Paper
For
Teacher’s Fest

National Council of Educational Research & Training, Delhi
Use of Technology in enhancing access, equity and quality

Introduction

India with 1.5 million schools, 8.5 million teachers and nearly 260 million school students, is a robust system of education working towards imparting equitable quality education for its learners. In our country, the goal of access to educational facilities and retention of students in schools have been achieved substantially. Achievement of a comparable quality of education in schools and expected learning outcomes by every child is still a distant dream. Apart from print resources and face-to-face interactions, technological developments have been integrated in a larger sense to bridge the learning gaps and digital divide through design, development and delivery of eContents and Continuous Professional Development (CPD) of teachers and teacher educators through multiple modes. The Digital India campaign has proved to be a stepping stone in this journey. The vision of Digital India campaign is to transform India into a digitally empowered society and knowledge economy. Under this, all policies, schemes and programmes have been accelerated as a result of which a number of ICT initiatives have been taken by NCERT, CBSE, NIOS and several other organisations and institutions at the national and state level. Some of the prominent initiatives includes – DIKSHA, NROER, Epathshala, DTH TV transmission through a bouquet of 34 educational TV channels under SWAYAM PRABHA and EDUSAT network, running of Massive Open and Online Courses (MOOCs) through SWAYAM, dissemination of educational radio contents through podcasts, i-radio, broadcasts on Gyan Vani and Community Radio etc.

Previous policy recommendations on use of technology emphasised that technology to be employed for spreading useful information, giving training to teachers, improving quality of education, sharpening awareness of art and culture, and inculcating abiding values etc. both in the formal and non-formal sectors. It also focused on generation of relevant and culturally compatible educational programmes and all available resources in the country will be the main component of ET. Production of high quality educational TV/Radio programmes for children was also promoted.

Key Features of NEP 2020

The COVID-19 pandemic situation poised India to a number of challenges and difficult situations further to impart a comparable quality education for a diverse group of learners. As a result of which, achievement of 21st Century skills and Sustainable Development Goals (SDGs) seems to be elusive. In this critical juncture, the Ministry of Education, Government of India has released the National Education Policy (NEP) -2020 which envision an education system rooted in Indian ethos and enable its citizens to transform India into a vibrant equitable and knowledge society.

The NEP-2020, has led special emphasis on the role of technology, especially the disruptive technologies to impart quality education for students, teachers, youths and address the triple challenge of skill, scale and speed. It may be logically reasoned that the implementation of the vision of NEP-2020 on “Technology
use and Integration” in the education system can help transform India into a digitally empowered society and knowledge economy. Thus the relationship between technology and education at all levels is bi-directional. Given the explosive pace of technological development allied with the sheer creativity of tech-savvy teachers and entrepreneurs including student entrepreneurs, it is certain that technology will impact education in multiple ways, only some of which can be foreseen at the present time. New technologies involving artificial intelligence, machine learning, block chains, smart boards, handheld computing devices, adaptive computer testing for student development, and other forms of educational software and hardware will not just change what students learn in the classroom but how they learn, and thus these areas and beyond will require extensive research both on the technological as well as educational fronts. Appropriate agencies such as the NETF, CIET, NIOS, IGNOU, IITs, NITs, etc. will be identified to conduct a series of pilot studies, in parallel, to evaluate the benefits of integrating education with online education while mitigating the downsides and also study related areas.

Extensive use of technology in teaching and learning, removing language barriers, increasing access to Divyang students and streamlining educational planning and management are also being emphasised in NEP 2020. Based on the previous policies several ICT initiatives like DIKSHA, NROER, SWAYAM, SWAYAM Prabha etc. were all initiated to improve access to educational resources by everyone in the country. However the benefits of technology cannot be leveraged unless the digital divide is eliminated through concerted efforts like training teachers and developing them to be effective online educators, developing open and public digital infrastructure in the education sector, leveraging existing platforms to accommodate advanced technologies like immersive technologies, virtual labs etc. Focus on learner centered pedagogy and blended approach to address the social, affective and psychomotor dimensions of learning is also emphasised to improve the quality of teachers. A dedicated autonomous body to research, exchange ideas and guide other organisations with respect effective use of technology is found to be the need of the hour. Thus a lot of exploration and deliberation on how to realise all the proposed thoughts with experts will open up the eyes to look the way forward.

Implementation Plan
For an effective implementation of NEP-2020, a well-defined implementation plan needs to be chalked out with the following steps in mind:

- Conduct research on disruptive technology and current status of ICT implementation in schools and teacher education institutes and development of eContents, strategies, training modules on content-ICT-pedagogy integration as per the new pedagogical and curricular structure recommended in NEP 2020.
- Continuous customization of architecture of digital education platforms at national level including portals, apps, labs as per the arising educational needs.
- Design, development and roll-out MOOCs for students and teachers with appropriate policy evaluation, certification and credit transfer.
- Dissemination of Digital contents through multiple modes
- Collaboration and coordination with national and state level institutions for convergence of efforts
Conclusion:

In a country like India, which is characterised by multifarious diversity and constraints in terms of availability of resources (ICT infrastructure, electricity, budget, skilled human resource), switching over to digital modes of education is a humongous task, as well as full of challenges. A decentralised planning and implementation with flesh and blood approach is the need of the hour for which various States/ UTs level organization such as SCERTs, School Boards, DIETs, BIETs, CTEs, IASEs and National level organisations such as NCERT, CBSE, NIOS, KVS, NVS) need to join hands for a change that will sustain post COVID-19 also. Such collaboration will help to continuously enhance the quality of education and skill development of the large student population and we can leverage the demographic dividend in coming years. In order to achieve the content-ICT-pedagogy integration and use of disruptive technology in real sense integration and convergence of policies, schemes, programme and services needs to happen with merger of parallel structures following a multimodal approach and innovative strategies.