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# NEP, 2020: Establishment of National Educational Technology Forum (NETF) for Online Teaching and Learning

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**ABSTRACT:** The NEP, 2020 proposes to establish an autonomous body, the National Educational Technology Forum (NETF) which is a platform for free exchange of ideas on the use of technology in teaching–learning process. The aim of NETF is to provide guidance to Central and State Government on technology–based interventions; to build intellectual and institutional capacities in educational technology; to visualize strategic thrust areas in ET ; and to show new directions for research and innovations in ET. The role and functions of the NETF are discussed in detail in the present article. Further, teachers will also need to be prepared to use educational technology in classrooms. Therefore, the technology–based educational platforms, such as DIKSHA/SWAYAM are created. The NEP also recommends that a rich variety of educational software shall be developed and made available for students and teachers at all levels. In this context, the NEP proposes certain strategies for implementation the policy issues related to the use of technology in education as stated in SARTAQ, 2021 document. The major tasks to be carried out, responsibilities entrusted to various national bodies to enforce the policy issues and the timeline fixed to implement the various tasks are also presented. Lastly, the NEP, 2020 reassures that given the explosive pace for advancement of technology, it is certain that technology will impact on education in multiple ways.

**KEYWORDS:** National Educational Technology Forum (NETF), Professional Preparation of Teachers, Implementation Plan for NEP, Tasks and Timelines.

## I. INTRODUCTION

The National Education Policy, states that, India is a global leader in information and communication technology and in other cutting-edge domains, such as space. The Digital India Campaign is helping to transform the entire nation into a digitally empowered society and knowledge economy. While education will play a critical role in this transformation, technology itself will play an important role in the improvement of educational processes and outcomes; thus, the relationship between technology and education at all levels is bi-directional. (Draft p. 339). The draft policy further highlights that; the use of technology in education can be classified into four broad categories. The first is teacher preparation and their professional development. The second area where technology can be impactful is classroom teaching, learning and evaluation. The third area is the use of technology to improve access of disadvantaged groups to education. The fourth area is the planning, administration and management of the entire educational system.

Since technological change is rapid several models for the creation of software for education exist, ranging from SWAYAM commissioned by the Ministry of Education, to software developed and tested by IIT, Bombay. Even software applications developed by entrepreneurs need to be evaluated and inducted if they are found to be useful. Although several innovative software for education have been developed over the past several years, a mechanism to assess the stakeholders needs ; creating technology based solutions to address these needs ; testing these solutions in pilot try outs ; and deploying these software solutions to the entire nation. This can be done by setting up of a special body to carry out these tasks.

In this backdrop, the NEP, 2020 proposes to establish an autonomous body, the National Educational Technology Forum (NETF), which will provide a platform for the free exchange of ideas on the use of technology to improve learning, assessment, planning, administration, and so-on, both for school and higher education. The aim of the NETF will be to facilitate decision making on the induction, deployment, and use of technology, by providing to the leadership of educational institutions, State and Central governments, and other stakeholders, the latest knowledge and research as well as the opportunity to consult and share best practices.



## II. SETTING UP OF A NATIONAL EDUCATIONAL TECHNOLOGY FORUM (NETF)

The National Education Policy, 2020 in its Para 23.3 states as follows:

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. The aim of the NETF will be to facilitate decision making on the induction, deployment, and use of technology, by providing to the leadership of education institutions, State and Central governments, and other stakeholders, the latest knowledge and research as well as the opportunity to consult and share best practices (Para 23.3).

The NETF will have the following functions:

- To provide independent evidence-based advice to Central and State Government agencies on technology-based interventions;
- To build intellectual and institutional capacities in educational technology;
- To envision strategic thrust areas in this domain; and
- To articulate new directions for research and innovation.

In order to remain relevant in the fast-changing field of educational technology, the NETF shall maintain a regular inflow of authentic data from multiple sources including educational technology innovators and practitioners, particularly at the grass-roots level, and shall engage with a diverse set of researchers to analyze the data. In order to support the development of a vibrant body of knowledge and practice, the NETF shall organize multiple regional and national level conferences, workshops, etc., on current issues to seek inputs from national and international educational technology researchers, entrepreneurs, and practitioners. The thrust of technological interventions shall be for the purposes of improving teaching-learning and evaluation processes, supporting teacher preparation and professional development, enhancing educational access, and streamlining educational planning, management, and administration including processes related to admissions, attendance, assessment, etc., (Para 23.5).

## III. TEACHER PREPARATION AND PROFESSIONAL DEVELOPMENT

Many faculty members need up gradation of their subject knowledge, which can be done through online as well as through distance education. Teachers are to be equipped to use education technology in classrooms. All teachers preparation programs shall include hands-on training in leveraging technology-based resources as well as in pedagogical strategies for utilizing e-content, and using appropriate tools to enhance teaching-learning processes. An online training platform shall be developed to empower in-service teachers in pedagogical techniques. All teachers shall be provided with sufficient connectivity to access this training platform, explore high quality online educational resources, and participate in discussion with online teacher communities where best practices can be shared. The intervention programs shall include authorized courses for faculty development on a platform such as SWAYAM (*Study Webs of Active Learning for Young Aspiring Minds*). This platform shall orient school teachers as well as faculty of higher education in theoretical aspects of learning. The course contents must be restricted for the online mode instead of just recording the classroom interactions. The teachers can interact with other teachers teaching the same subjects and exchange their experience and even educational content also. This is a promising intervention with greater impact. This must be encouraged and expanded in many States and in various subjects.

The NEP recommends that a rich variety of educational software shall be developed and made available for students and teachers at all levels. All such software shall be available in all major Indian languages and shall be accessible to wide range of uses including students in remote areas and differently-abled. Teaching-learning e-content shall continue to be developed by all States in all regional languages, as well as by the NCERT, CIET, CBSE, NIOS, and other bodies/institutions, and shall be uploaded onto the DIKSHA (*Digital Infrastructure for Knowledge Sharing*) platform. This platform may also be utilized for Teacher's Professional Development through e-content. CIET (Central Institute of Educational Technology) shall be strengthened to promote and expand DIKSHA as well as other educational technology initiatives. Suitable equipment shall be made available to teachers at schools so that teachers can suitably integrate e-contents into teaching-learning practices. technology-based educational platforms, such as





DIKSHA/SWAYAM, shall be better integrated across school and higher education, and shall include ratings/reviews by users so as to enable content developers to create user friendly and qualitative content (Para 23.6).

#### IV. NEP IMPLEMENTATION PLAN

The NEP, 2020 provides a detailed report regarding the spread of ICT in school education by the Government. With reference to the School Education, the Government was able to enhance access and availability of ICT facilities to the students and teachers. Almost 65 per cent of secondary and senior secondary schools have been covered under ICT scheme of GoI. The nation policy now recognizes that, the focus of ICT now needs to be shifted towards quality aspects to enhance learning outcomes. In order to achieve this along with the hardware, easy access to high-quality e-content and educational software powered by latest technology is critical to achieving improvement in student learning outcomes. This software connected with modern network system to monitor the usage of hardware and e-content also needs to be developed.

DIKSHA is the national platform for school education available for all States and the Central governments, for grades 1 to 12, and was launched in September, 2017. DIKSHA can be accessed through a web-portal and mobile application. DIKSHA provides access to a large number of curriculum linked e-content through several cases and solutions such as QR coded *Energized Text Books* (ETBs), courses for teachers, quizzes and others. It is estimated that over 45 crore ETBs are being printed by 35 States and UTs, with more than 30 crore content plays and 200 crore page hits already on DIKSHA.

As part of PM eVidya announced under the Atma Nirbhar Bharat programme, DIKSHA is the “one nation ; one digital platform” for school education in India. DIKSHA is being transformed into a platform for diverse and rich curriculum linked e-content requirements of learners and teachers for all States/UTs accessible across digital devices (laptop/mobile/desktop/ tablets, TV and radio) in order to have coherence of access and learning experience. At the same time, DIKSHA is designed to inherently support States/UTs to exercise autonomy, independence and choice to craft and run learning programs to suit their needs and achieve their goals, by using solutions, tools and data on the platform.

In April, 2020 VidyaDaan was launched as a national content contribution program that supports the DIKSHA platform and tools to seek and allow contribution of e-learning resources for school education by educational bodies, private bodies, and individual experts.

In this backdrop, the NEP, 2020 proposes the following strategies of implementation in the document *SARTAQ*, 2021.

- i. CIET in NCERT need to be strengthened to become the central hub for promoting, developing and expanding all initiatives related to educational technology for school education sector. CIET will become the policy advising body to DoSEL with regard to Ed Tech in school education. For enabling and strengthening CIET, NCERT/CIET shall form an expert committee under the guidance of DoSEL to study the present structure, resources, functioning etc., of CIET, the way forward for becoming a vibrant support to DoSEL for promoting, developing and expanding all initiatives related to education technology for school education sector, and the gaps that need to be filled. Based on the findings of this committee, NCERT/CIET will prepare action plan, timelines and budget and convey to DoSEL for approval. If need be, a special sub-head will be created for CIET from the 2021-22 budget onwards for this purpose.
- ii. State/UTs shall undertake a similar exercise in SCERTs for the SIETs and prepare a roadmap to strengthen the SIETs by 2021-22.
- iii. National Digital Library (NDL) will be linked to the e-resources of NCERT and SCERTs shall contribute all books/resources prepared by them to NDL for enriching it.
- iv. The ICT scheme under Samagra Shiksha shall be strengthened to include greater flexibility for States on the type of technology to deploy and accommodate differential funding for schools based on student enrolment. Schools shall be funded under this scheme in a systematic and time bound manner, to assist in ICT integration with classroom transactions. States/UTs shall prepare a school-wise roadmap to ensure this integration before 2030.
- v. UDISE+ shall be further strengthened and expanded by DoSEL to include District level and school level Performance Grading Indices.



vi. DoSEL shall work with MEITY on preparing an all-encompassing school education digital infrastructure. This work shall be initiated by DoSEL on priority basis.

## V. MAJOR TASKS AND TIMELINES

In order to assist the States/UTs in translating the vision of the policy at grass root level, the DoSEL has prepared an indicative chart with clearly defined tasks, responsibilities, outcomes and timeframe. The following is the plan of action:

Sl. No.	Tasks	Responsibilities	Timeline	Outputs
i.	CIET in NCERT shall be strengthened to become the central hub for promoting, developing and expanding all initiatives related to ET for school education sector.	NCERT	2021–22	CIET to become central hub for educational technology
ii.	States/UTs shall undertake a similar exercise in SCERTs for the SIETs and will prepare a roadmap to strengthen the SIETs by 2021–22.	States / UTs, SCERTs	2021–22	SIETs to become central hub for education technology in Stats / UTs
iii.	National Digital Library (NDL) shall be linked to the e-resources of NCERTs and SCERTs for effective utilization of available contents.	NCERT and SCERTs	2021–25	Linking NDL with e-resources in school education
iv.	The ICT scheme under Samagra Shiksha shall be strengthened giving greater flexibility for States on the type of technology to deploy and accommodate differential funding for schools based on student enrolment.	DoSEL	2021–23	Strengthening of ICT scheme under Samagra Shiksha
v.	UDISE+ shall be further strengthened and expanded by DoSEL to include District level and School level Performance Grading Indices.	DoSEL	2021–23	Expansion of UDISE+ including District/school level PGI
vi.	DoSEL shall work with MEITY on preparing an all-encompassing school education digital infrastructure. This work shall be initiated by DoSEL on priority.	DoSEL	2020 – 23	All-encompassing school education digital infrastructure for the country

### Long Term Achievements

The NEP in its implementation plan has suggested the following measures for integration of technology in educational practice by 2025 (SARTHAQ; p. 234).

- All States shall have integrated EdTech in their teaching–learning process based on their contexts and needs (for remediation, assessment, teaching, teacher professional development, etc) (States/ UTs).
- All allocated budget under ICT : Schools scheme have to be utilized by the States (State / UTs).
- Programmes for capacity building of teachers shall ensure 100 per cent teachers are trained in the integration of ICT in school education (States / UTs).



- iv. Healthy competition among States / UTs for PGI ranking of State / District / School level.
- v. Added to this, the NEP, 2020 has set a target that by 2030 all Government and Aided Secondary and Senior Secondary Schools shall have two smart classrooms each. Same facilities shall also be extended to KVs, NVs, and CTSA (MoE).

While preparing this time schedule, an appropriate care has been taken by MoE to prioritise strengthening of *what already exists* rather than *creating new structures* so that the expected outcomes can be achieved in a time-bound manner.

## VI. CONCLUSION

Technology use and integration will be pursued as an important strategy for improving the overall quality of education. Thus, the focus will not be just on creating and delivering high quality content, but also on using technology : to support translation of content into multiple languages ; to assist differently-abled learners ; to improve the quality of pedagogy and learning processes through the use of intelligent tutoring systems and adaptive assessment systems ; to create a new types of interactive and immersive content (e.g., using augmented and virtual reality) ; to strengthen educational planning and management and bring greater transparency and efficiency to the examination system as well as to administrative and governance processes ; to assist in the management of education, such as, supporting teacher development programmes ; to regulate the Open Distance Learning system so that it can respond to the growing demand for education from all age groups and across school education, higher education, professional and vocational education, adult education, and lifelong learning.

The Centre of Excellence in Educational Technology shall be established at prominent Universities and other institutions to perform research as well as support functions for the uptake of appropriate technology solutions. These Centres shall be represented at the NETF and they shall engage themselves in a two-way interaction with other members of the NETF for sharing of knowledge and practice.

Ultimately, the National Education Policy under its policy clause 23.2 it reassures that given the explosive pace for technological development it is certain that technology will impact on education in multiple ways. New technologies involving AI, ML, block chains, smart boards, adaptive computer devices and testing, and different forms of educational software and hardware will not just change *what students learn* in the classroom, but *how they learn*, and NEP reemphasizes that these areas will require extensive research both on the technological as well as educational sectors.

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