



REVIEW OF POLICIES AND PROGRAM REGARDING ICT IN EDUCATION

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ABSTRACT

In the era of digitization, technology and knowledge have taken the central stage in national and international concerns. The Information and Communications Technology (ICT) is a medium of connecting people and places beyond geographical boundaries. Information communication technology is a domain of educational technology, where ICT always try to follow the various learning theories and principle which effected by educational technology. ICT basically consisted through the aspect of IT and CT. Through these two aspects we try to move our education system conventional way to modern way and explore the education in wider or mass area. At present we using many ICT platforms for continue our lifelong, distance or continuing education. At present when the pandemic situation suddenly struck our whole educational system, like an alternative way ICT help to continue our education system offline to online. In this paper researcher want to study the various policies/program related to ICT in education which introduced by government after independent of the Nation. Through this paper researcher try to mention the various recommendation taken by education ministry of India to catalyze the ICT in education.

KEYWORDS: *ICT in Education; NPE 2021; Review Policy; ICT*

1.0. INTRODUCTION

When technological various aspects or approaches or techniques or devices use in the field of education to catalyze, upgrade the educational various factors such as teaching, learning, curriculum or school environment known as educational technology. Educational technology is an approach of technology which always try to use the various learning- teaching theories or principle for transform our education in a conventional way to modern way. Educational technology has various domains such as IT, ICT, CT. One of the important domains of educational technology that is ICT means Information communication technology.

When one tries to construct, modify, manipulate, store the data and through communication technology when one tries to share the information in small as well as in the wider area for explore the knowledge known as information and communication technology. At present this domain of technology use in various sectors such as health, governance, food, security reasons etc. Like every sector when these aspects of technology use in education system to catalyze the aims or purpose of education known as ICT in education.

1.1. Basic difference between ICT and ET

Educational technology educational technology (also called learning technology) is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources. Educational technology is not only limited to the hardware, software aspects but also deals with various kinds of technique, principle or innovation of modern science to catalyze the whole educational teaching-learning or pedagogical process.

Whereas ICT is just a continuum part of technology which always deals with many kinds of technological tools and information systems to catalyze and transform the education system tradition to modern era. Always try to make the education system more flexible and interesting.

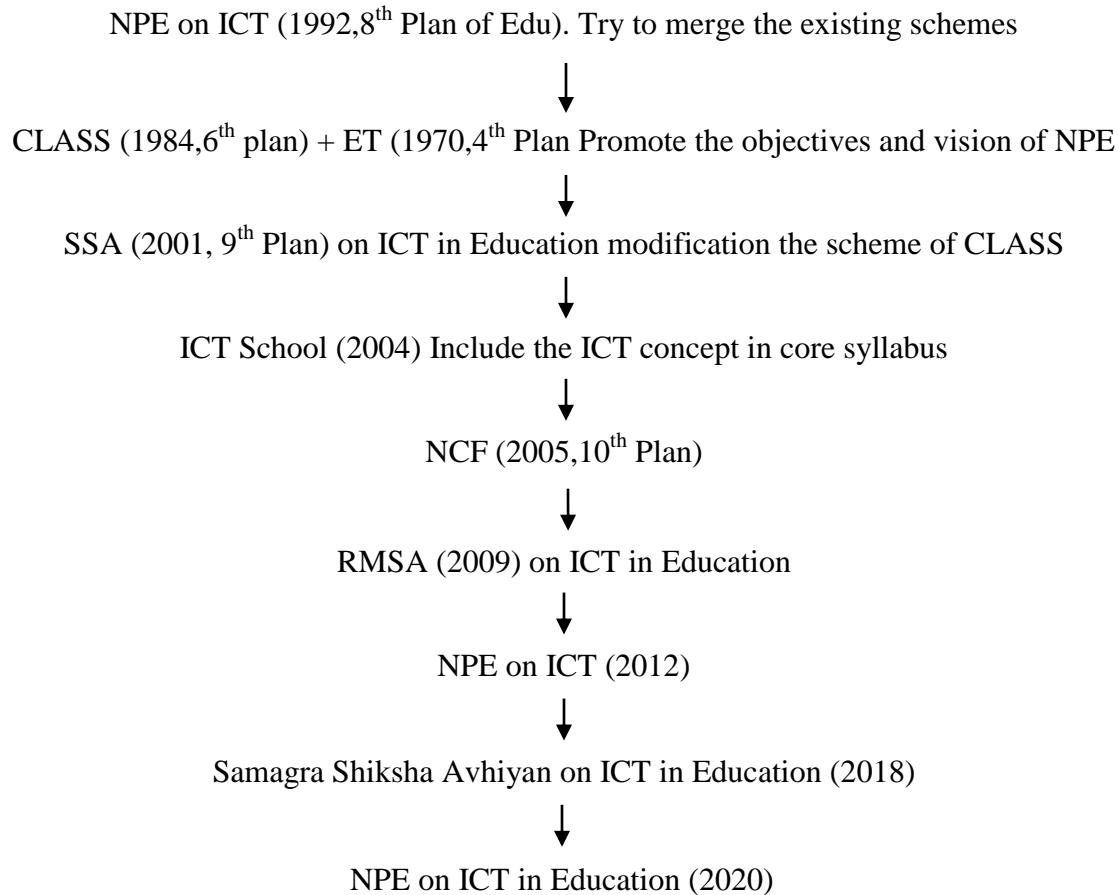
1.2. Significance of ICT in Education

At present scenario ICT playing most significant role in education such as those students are not able to take education for long time ICT provide an opportunity to carry on their lifelong education also adult education. It



provides also many kinds of online resources such as online learning, digital learning, e-learning, M-learning to those students or learners who are not able to take education in regular basis. Present time the pandemic situation ICT suddenly transfer the whole education traditional education to online learning.

Evolved Policies regarding ICT in Education



1.3. Under SSA some important schemes started called as:

1. “Eklavya Computer aided self-learning”. In this scheme fully animated multi-media software has been created based on textbooks of classes 6 to 8. This has been loaded on touch screen computers, and has been kept in the school corridors for easy access by children. Under
2. **Indira Sochna Shakti Scheme**, free computer education is being given to more than one hundred thousand girl students at secondary level with the help of NIIT.
3. **Interactive radio broadcast** is being used for teaching-learning of English language at primary level
4. **State Wide Area Networks (SWANs)** policy brings a ray of hope to overcome such challenges. This broadband access at the district and block level to solve the connectivity gap.

1.4. Some important ICT area from 2004 to 2020:

1.4.1. ICT school 2004:

During the 10th five year plan this project introduced. This is a modification project of NPE on ICT Government program. Enrichment of existing curriculum and pedagogy by employing ICT tools for teaching and learning such as computer etc. Under this program it has stated that

KVS/NVS will be cover well equip of ICT devices:

Vidyarthi Computer Scheme.



Shikshak Computer Scheme.
School Computer Scheme.

Smart School scheme, two SMART school to be established in every State/UT.

Expansion with emphasis on quality and equity: A need was felt to expand the outreach of the scheme to cover all Government and Government aided secondary and higher secondary schools in the country with emphasis on educationally backward blocks and areas Revised with concentration of SC, ST, minority and weaker sections. Along with that, there is a need for ensuring dependable power supply where the electricity supply is erratic and internet connectivity, including broadband connection.

ICT education will be imparted to all secondary and higher secondary students, an exclusive ICT teacher is required for each school. Similarly, there is a need for pre service as well as in service training of all teachers in effective use of ICT in teaching and learning process

Development of e-content: There is also a need to develop and use appropriate e-content to enhance the comprehension levels of children in various subjects.

1.4.2. NCF on ICT in Education (2005):

Information and Communication Technology (ICT) is an important tool for bridging social divides. ICT should be used in such a way that it becomes an opportunity equalizer by providing information, communication and computing resources in remote areas. ICT if used for connecting children and teachers with scientists working in universities and research institutions would also help in demystifying scientists and their work.

1, we need to address this infrastructure challenge seriously and explore viable and innovative alternatives with regard to hardware, software and connectivity technologies appropriate for rural and urban Indian schools.

2, we also need to address the issue of the development of a comprehensive and coherent curriculum model in computer science and IT, which can serve as the basis for the beginning of a discussion between educators, administrators, and the general public.

3, certain topic related to ICT tools should be Include in the core elements of syllabus. Such as concepts of iterative processes and algorithms, general problem-solving strategies arising from computing, possibilities of computer usage, the place occupied by computers in the modern world, and the societal issues that arise by it.

4, should be provide school library to access the new information technology to enable children and teachers to connect with the wider world. In the initial stages of planning, block-level or cluster-level libraries can be set up. In the future, India must move towards equipping every school, irrespective of its level, with a library. In many parts of the country, community libraries are functioning in rural areas, and government libraries exist in many district headquarters.

1.4.3. NCFTE on ICT in Education (2009):

Teacher education needs to upgrade through demand of education in modern period. In a way, ICT can be imaginatively drawn upon for professional development and academic support of the pre-service and in-service teachers.

1.4.4. RMSA on ICT in Education (2010):

Provide opportunities to secondary stage students to mainly build their capacity on ICT skills and make them learn through computer aided learning process.

1. ICT related content should be included in the curriculum for students in 8, 9, and 10 standards. For secondary level examination ICT is one of the optional subjects, which interested children can opt for.

2. the state provides education to schools in rural areas through EDUSAT.

3. It has also prepared CDs on various subjects, which are meant for middle schools and high schools.

4. organizing live classrooms by telecasting lessons from expert teachers. The focus will be to teach computer education as a subject in class 11 and 12.

5. Provide a compulsory computer literacy to every child in higher secondary school, irrespective of whether he/she has taken computer education as a subject or not.

6. The whole program was going through four Components



7. The first one is the partnership with State Government and Union Territories Administrations for providing computer aided education to Secondary and Higher Secondary Government and Government aided schools.
8. The second is the establishment of smart schools, which shall be technology demonstrators.
9. The third component is teacher related interventions, such as provision for engagement of an exclusive teacher, capacity enhancement of all teachers in ICT and a scheme for national ICT award as a means of motivation.
10. Fourth one relates to the development of a e-content, mainly through Central Institute of Education Technologies (CIET), six State Institutes of Education Technologies (SIETs) and 5 Regional Institutes of Education (RIEs), as also through outsourcing.

Under the revised scheme

1. There is a provision of a suitably qualified full time computer teacher in each secondary and higher secondary school. In case of higher secondary school having computer related subjects as elective, there would be need for a post graduate in computers teacher.
2. There are provisions for in-service (induction and refresher) training for all teachers in secondary and higher secondary schools to enable them to impart ICT enabled teaching.
3. Convergence with the existing program would be essential especially in teacher training and ensuring reliable power supply and internet connectivity. Azim Premji Foundation has set up 12,000 computer aided learning centers (CALCs) across India. The Foundation provides curriculum-based learning in the form of multimedia packages and CDs. West Bengal has tied up with IBM to take ICTs to students. IBM is providing the necessary IT infrastructure, education services, IT support and project management for 400 schools initially. Each school is equipped with 10 computers. The schools are expected to train more than 150,000 government is also thinking on similar lines teacher training and the development of curriculum and examination system is developed with support from MNCs including Intel and Microsoft.

1.4.5. NPE on ICT 2012

Vision:

The ICT Policy in School Education aims at preparing youth to participate creatively in the **establishment, sustenance and growth of a knowledge society** leading to **all round socioeconomic development of the nation and global competitiveness**.

Mission:

To devise, catalyses, support and sustain ICT and ICT enabled activities and processes in order to improve access, quality and efficiency in the school system

Policy Goals:

To achieve the above, the ICT Policy in School Education will endeavor to:

Create:

- An environment to develop a community knowledgeable about ICT
- An ICT literate community which can deploy, utilize and benefit from ICT and contribute to nation building.
- create an environment of collaboration, cooperation and sharing, promote universal, equitable, open and free access to a state-of-the-art ICT and ICT enabled tools and resources to all students and teachers.
- Develop of local and localized quality content and to enable students and teachers to partner in the development and critical use of shared digital resources

Promote:

Universal, equitable, open and free access to a state-of-the-art ICT and ICT enabled tools and resources to all students and teachers. development of local and localized quality content and to enable students and teachers to partner in the development and critical use of shared digital resources, research, evaluation and experimentation in ICT tools and ICT enabled practices in order to inform, guide and utilize the potentials of ICT in school education. Motivate and enable wider participation of all sections of society in strengthening the school education process through appropriate utilization of ICT.

Objective of the Program:

1. To promote an environment to develop a community knowledge about ICT.
2. To create an ICT literate community which can deploy, utilize, benefit from and contribute to nation building.
3. To create an environment of collaboration, cooperation, and sharing environment of knowledge through ICT.



4. To promote universal, equitable, open and free access able knowledge to everyone through using of ICT.
5. To develop or train school teachers.
6. To create skill for employment regarding present demand of the society.
7. To promote research, evaluation and experiment through using of ICT tools.
8. To create the creation of a demand for optimal utilization of and optimum returns on the potentials of ICT in education.
9. Universal, equitable, open and free access to a state-of-the-art ICT and ICT enabled tools and resources to all students and teachers.
10. development of local and localized quality content.

Focus areas of NPE on ICT in Education:

- Identify the challenges and issues
- ICT Literacy and Competency Enhancement
- ICT enabled teaching – learning processes
- ICT for skill development
- ICT for children with special needs
- Elective Courses at the Higher Secondary level
- ICT infrastructure provide to schools
- ICT related digital resources provide
- Explore ICT awareness to the students
- Capacity building
- Implementing the policy and managing the policy
- Model for ICT infrastructure.

1.4.6. Digital India special focus on ICT in Education 2015:

There are some important initiatives or program introduced by the Digital India, these are such as:

1. NMEICT:

Which is stand for National mission on Education through Information and communication technology. Under this program ministry of information and communication technology introduced and still introducing various kinds of digital initiatives to catalyze the education system in online plate form.

2. E-GRANTHALAYA:

About e-Granthalaya is an Integrated Library Management Software developed by National Informatics Centre, (NIC), Department of Electronics & Information Technology. The application is useful for automation of in-house activities of libraries and to provide various online member services. The software provides built-in Web OPAC interface to publish the library catalogue over Internet. The software is UNICODE Compliant, thus, supports data entry in local languages. Website: <http://egranthalaya.nic.in/>

3. EDISTRICT:

About. The e-District Mission Mode Project (MMP) is envisaged to strengthen the district administration of the States by providing ICT support to the participating departments and district administration in terms of providing centralized software application for selected category of citizen services and training for staff of the departments with a view to improve delivery of the citizen services being rendered by these departments. Services developed under e-District project would be delivered through various delivery channels like: · Direct access by Citizens through e-District portal as a registered user. · Existing Atal Jana Snehi Kendra's / B1 K1 service centers. · Common Service Centers (To be established up to Grama Panchayat Level).

4. E-GRANTHALAYA:

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5. E-PANCHAYAT:

About e-Panchayat is an e-Governance initiative for the rural sector providing comprehensive software solution attempting automation of Gram Panchayat functions. It is a platform for panchayat representatives to connect with



rest of the world, which aims to bring out the local voices by empowering the local communities to showcase and share local social, cultural and economic practices, stories and challenges. (Website: <http://epanchayat.in/>)

6. E-PATHSHALA:

About developed by NCERT, e-Pathshala showcases and disseminates all educational e-resources including textbooks, audio, video, periodicals and a variety of other print and non-print materials through website and mobile app. The platform addresses the dual challenge of reaching out to a diverse clientele and bridging the digital divide (geographical, socio-cultural and linguistic), offering comparable quality of e-contents. All the concerned stakeholders such as students, teachers, educators and parents can access e-books through multiple technology platforms i.e., mobile phones (android, iOS and Windows platforms), and tablets (as e-pub) and on web through laptops and desktops (as flipbooks). (website. <http://epathshala.nic.in/>)

1.4.7. NPE 2020 on ICT:

According to NPE 2020 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.

The NETF will have the following functions: National Education Policy 2020:

a) provide independent evidence-based advice to Central and State Government agencies on technology-based interventions;

b) build intellectual and institutional capacities in educational technology;

c) envision strategic thrust areas in this domain;

d) articulate new directions for research and innovation.

One of the permanent tasks of the NETF will be to categorize emergent technologies based on their potential and estimated timeframe for disruption, and to periodically present this analysis to MHRD.

A rich variety of educational software, for all the above purposes, will be developed and made available for students and teachers at all levels. All such software will be available in all major Indian languages and will be accessible to a wide range of users including students in remote areas and Divvying students.

Teaching-learning e-content will 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 will be uploaded onto the DIKSHA platform for specifically utilized for Teacher 's Professional Development through e-content.

Technology-based education platforms, such as DIKSHA/SWAYAM, will be better integrated across school and higher education, and will include ratings/reviews by users, so as to enable content developers create user friendly and qualitative content.

The National Research Foundation will initiate or expand research efforts in the technology. In the context of AI, NRF may consider a three-pronged approach:

(a)advancing core AI research,

(b)developing and deploying application-based research, and

(c) advancing international research efforts to address global challenges in areas such as healthcare, agriculture, and climate change using AI.

1.4.8. SAMAGRA SHIKSHA AVHIYAN on ICT 2020:

The policy mentions major four components for implication of ICT in schools:

The first one is the partnership with State Governments and Union Territories Administrations for providing ICT enabled education to Government and Government aided schools and TEIs (SCERTs/ SIEs, DIETs and BITEs).

The second component is teacher related interventions, such as, provision for engagement of an ICT teacher in schools, continuous capacity enhancement of all teachers in the use of ICT, and recognition of teachers and teacher educators for innovative use of ICT in education and learning, as a means of motivation.

Refresher Training for Capacity building:



Refresher trainings in use of ICT in teaching learning should be provided to all teachers of the sanctioned schools. Refresher training is proposed to be provided for 5 days (8 hours per day). The details of training and duration (40 hours- Face to Face/Online mode- through MOOCs platform) to be provided.

1.5. CONCLUSION

To-days society depends on fully in technology based. Our country to take many initiatives to teaching learning process in present time. These initiatives help us to growing rapidly as others developed countries. Here are some initiatives described which is play major role in our education or society, likes National Digital Library (NDL), E PG Pathsala, Shodhganga Platform, e-ShodhSindhu Platform, e-Yantra, FOSSEE (Free/Libre and Open-Source Software for Education), NMEICT (The National Mission on Education through Information and Communication Technology), e-Granthalaya etc. Corona pandemic breakdown education system of all over world, much more affected in offline education. In this time help us online education to continue education. Other hand, ICT based education helps us to know other counties latest education system quickly. India's initiatives in education is as a blessed for every Indian peoples.

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