

**RESEARCH PAPER****ICT in Teacher Education: A Key Factor of NEP 2020 India****Mamta Kumari**

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Received: 20<sup>th</sup> Feb. 2023, Revised: 10<sup>th</sup> March 2023, Accepted: 20<sup>th</sup> March 2023**ABSTRACT**

*With the approval of the Union Cabinet for National Education Policy 2020, the country, after 34 years, has got its new education policy. There is a lot of emphasis given on the integration of technology in NEP 2020 as technology can serve as an important factor which can pave the way for a holistic development. In NEP 2020, a special emphasis is also given on the regional languages as E-courses will be developed in the same. As per the NEP 2020, technology in education shall be given major emphasis. It involves several disruptive technologies which are likely to bring major changes in the ways of teaching and learning in the institutes. The vision for NEP is 'Technology use and Integration' in order to give a pathway for the students to make India a digitally empowered society and knowledge economy around the globe. Effective integration of ICTs into educational system is a complex and multifaceted process that involves in educational policy and planning, infrastructure, capacity building, language and content and financing. With the paradigm shift in the curriculum, teacher acts as a facilitator in a student centered learning and ICT based education makes the teaching-learning process effective. ICT implementation has given a magnificent opportunity for the Education Implementation specialists to reanalyze what we want our future leaders of India to be like. This paper presents the highlights of NEP and various provisions for ICT in Teacher Education and the present status of ICT usage in B.Ed. colleges in India.*

**Key words:** National Education Policy 2020, Technology, Multilingualism, Accessibility, ICT, Teacher Education, strategies and its implementation

**INTRODUCTION**

ICT stands for Information and Communication Technology. It is defined as the application of technology in processing of information and communication which includes the use of computers and software to not only convert and store but also process, transmit and retrieve information. National policy on ICT (NCF 2005), has defined it as all devices, tools, content, resources, forums, and services, digital and those that can be converted into or delivered through digital forms, which can be deployed for realising the goals of teaching learning, enhancing access to and reach of resources, building of capacities, as well as management of the educational system. With the merging of technologies, it has become imperative to take a comprehensive look at all possible information and communication technologies for improving teacher education in the country. Preparedness for ICT usage in teacher education, teacher-educators with varying levels of awareness of and ability to use ICT in teaching process and teacher-trainees with varied levels of exposure which led every learner to negotiate learning spaces on their own and develop their unique world views. Engage of the North Central Regional Educational Laboratory (US) has identified what it calls "21 century Skills," which includes digital age literacy. In 2012, Zuppo provided an ICT hierarchy, where all levels of hierarchy "contain some degree of commonality in that they are related to technologies that facilitate the transfer of information and various types of electronically mediated communication."

**TEACHER EDUCATION IN INDIA**

National Council of Teacher Education has defined Teacher Education as- "A programme education, research and training of persons to teach from pre-primary to higher education level. Teacher education is a programme that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the existing challenges." In teacher education, the initiative division of

jurisdiction for certification of teachers for teaching at the elementary stage given to the State Department of Education and that for teaching at the secondary stage given to the universities continues to be the practice even today. The course that prepares teachers for teaching in secondary schools is called B.Ed. and equivalent degrees are given by as many as 200 universities in India.

### **VARIOUS PROVISIONS OF NEP 2020 FOR ICT IN TEACHER EDUCATION**

In recent rise of pandemics demands digital platforms on ICT based educational initiative. In this regard, the National Education Policy 2020 recognizes the importance of leveraging the advantages of technology while acknowledging its potential risks and dangers. It calls for carefully designed and appropriately scaled pilot studies to determine how the benefits of online/digital education can be reaped while addressing or mitigating the downsides. In the meantime, the existing digital platforms and ongoing ICT-based educational initiatives must be optimized and expanded to meet the current and future challenges in providing quality education for all.

- According to NEP 2020, the use of technology platforms such as SWAYAM/DIKSHA for online training of teachers will be encouraged to standardized training programmes can be administered to large numbers of teachers within a short span of time.
- The National Educational Technology Forum (NETF) will be created to provide a platform for free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration, and so on, both for school and higher education.
- According to NEP 2020 that educational software will be available for both the teachers and students at all levels including students in remote areas and Divyang students. Setting of e-content for teaching and learning developed by all states in their regional languages and by NCERT, CIET, CBSE, NIOS, etc., and will be uploaded in the DIKSHA platform.
- Technological interventions for 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, assessments, etc.
- According to NEP 2020 that Suitable ICTs equipments will be made available to teachers at schools so that teachers can suitably integrate e-contents into teachinglearning practices.
- NPE 2020 stressed on suitable training and development for effective online educators for the teachers. It cannot be assumed that a good teacher in a traditional classroom will automatically be a good teacher in an online classroom.
- According to NEP 2020 emphasis on setting up the building of digital infrastructure, digital content and capacity building will be created in the Ministry to look after the e-education needs of both school and higher education. With the rapid advancement of technology, we needs specialists to deliver high quality e-learning, a vibrant ecosystem has to be encouraged to create solutions that not only solve India's challenges of scale, diversity, equity, but also evolve in keeping with the rapid changes in technology, whose half-life reduces with each passing year. This centre will, therefore, consist of experts drawn from the field of administration, education, educational technology, digital pedagogy and assessment, e-governance, etc.

### **FIVE PILLARS OF NEP 2020**

NEP 2020 is based on mainly the five pillars- Affordability, Accessibility, Quality, Equity and Accountability. NEP 2020 ensures not only continual learning but an overall holistic development of students. Choice based education will make learning flexible for students and they will be able to pursue their areas of interest. Bank of credit is another brilliant move which will facilitate the transfer between institutions. It will help the students to keep their academic credits stored. Apart from this the emphasis is also laid upon infrastructure support and innovative education centres. NEP 2020 also facilitates multiple pathways of learning. Creating an ICT literate community, providing free access to ICT tools is the need of the hour. There is also a great need to motivate a wider part of the educators to strengthen the education system via ICTs. The new education policy aims to make teachers fully trained in the next ten years. By 2030, the policy envisions to have professionally trained and professionally developed teachers.

**CHALLENGES FOR IMPLEMENTATION OF ICT IN TEACHER EDUCATION AS PER NEP 2020**

With the coming of new NEP 2020 has brought us into an era of new technology world to meet so many challenges in the field of education. New challenges for preparing teacher-educators and future teachers are in need to adapt to the new styles of learning method in the teaching learning process. There are numerous problems widespread in the area of teacher education institutions in the state. In order to meet the needs of these challenges in the state teacher education, there will be a holistic development in all the spheres relating to ICT usage in the educational institutions such as policy and politics, infrastructure development, human capacity development, culture, equity, financial aspects, curriculum and pedagogy. Some of the main challenges for implementation of ICT in teacher institutions as per NEP 2020 are as follows;

- Lack of proper ICT lab facilities in the college
- Inadequate equipments of hardware and software facilities
- Lack of proper trained teacher educators and resources available for teaching ICT education
- Lack of basic knowledge for using ICTs among teacher-trainees
- Lack of proper building infrastructure for ICT related facilities
- Overcrowded classroom
- Shortage of computer for access to all the teacher trainees in the institutions
- Lack of proper financial support from the administrative, department and the government as a whole
- Lack of proper training for the teacher-educators in relating to the use of ICTs equipments
- Poor network of Wi-Fi connectivity in the institution
- Need to update ICT related course in teacher education
- Lack of specialists and professionals to frame proper curriculum as per NEP 2020
- Lack of study materials for technical knowledge in using ICTs equipments
- Lack of teachers who are willing to integrate technology with education in their teaching.

**SUGGESTIONS FOR EFFECTIVE IMPLEMENTATION OF ICT IN TEACHER EDUCATION**

In this present era developing countries are facing so many challenges for preparing their societies and governments for globalization and the information and communication revolution. Policy-makers, educationists, academics and concerned citizens are actively working together to make their societies competitive in the emergent information economy. Uses of ICTs in education are wide spread and it is generally believed that ICTs can empower teachers and learners, making significance contributions to learning and achievement. The main purpose of ICT implementation in education is to provide the prospect and trends of integrating and ICT into the general educational activities. Some of the suggestions for successful implementation of ICT in teacher education are as follows:

- Teacher educators should be well equipped with all the digital equipments and to enhance in using ICTs skills among teacher-trainees.
- Provide proper resource and funding in developing software and hardware facilities in the teacher education institutions.
- Professional training in ICT usage should be organized for teacher educators to keep the latest technological up to date.
- Ratios of teacher educators and teacher-trainees should be maintain so that enough assistance should be provided to teacher-trainees in using ICT tools and materials for better teaching learning process.
- Course content for ICT should be re-structuring as per NEP 2020 and should be based on action-oriented.
- Teacher education institutions should play an active participation, initiative and compassion towards the society to enhance ICT implementation.
- Teacher educators and teacher-trainees should be aware of the social change in their teaching activities and be the part of the global change in learning and teaching modification.

- In teacher education institutions proper ICT equipment's should be provided in all the classrooms such as computers, LCT projector, internet access, television, e-white boards, etc. for effective use of technology.
- Teacher educators must play an active role in utilizing ICT facilities in their everyday lesson's transaction in order to act as role model for the teacher-trainees.
- The administrative, Higher Education department and all the concerned authorities should be collaboratively working together for organizing timely training courses on ICTs.
- Teacher education institutions must have at least one lab with fully equipped ICT facilities.
- Adequate access of internet facilities in the classrooms to enhance teaching instructions.

## CONCLUSION

Teacher has a key role in the whole process, whereas in-case of ICT based education, various ICT tools are supplemented to make the teaching-learning process effective. There was a rise of pride created and interest generated among the teachers and students for gaining ICTs and its opportunity. ICT has the potential to remove barriers that are causing the problems of low rate of education in the country. ICT as a tool can overcome the issues of cause, less number of teachers and poor quality of education as well as to overcome time and distance barriers. In these regard teacher education play a critical role in transforming and improving educational processes and outcomes. The NEP 2020 recognizes the importance of technology while acknowledging its potential risk and dangers. NEP 2020 also stated that carefully designed and appropriately scaled pilot studies to determine the benefits of online/digital education. The existing digital platform and ongoing ICT-based educational initiative must be optimized and expanded to meet the current and future challenges in providing quality education for all.

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