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Technological Interventions in Teacher Education in the Light of NEP 2020

Arijit Bera

Research scholar, Department of Education, Ybn University, Ranchi

arijitbera081989@gmail.com

Abstract: *The National Education Policy 2020 envisions a modern education system that will directly contribute to our nation's long-term transformation into an egalitarian and thriving knowledge society by delivering high-quality education to everyone. Education is more than simply memorizing information or increasing vocabularies; it is also about developing skills that will enable pupils to engage with the world and succeed in the workplace. Classrooms that concentrate on technology prepare pupils for a bright future. The current research was conducted to investigate the provisions for employing technology in the teacher education. Understanding the principle of using technology can help broaden the minds of teachers and teacher educators, leading to the elimination of rote learning and drill, allowing for creative discourse between teacher educator and intern, followed by similar interaction and learning between teacher and learner in the school classroom.*

Keywords: *Technology, Contemporary Education, Knowledge Society, Classroom.*

Introduction: NEP 2020's core focus is the integration of technology into education with the objective of obtaining 100% literacy. The policy recognises technology's tremendous effect on social growth, as well as its potential to improve educational quality. To fully realise this goal, significant efforts are necessary to facilitate the seamless integration of technology as well as to accept larger changes in the present educational system.

In recent years, teachers have had to adjust to comprehensive schools, huge schools, new teaching techniques, new mathematics, Nuffield science, team teaching, and educational technology. Teachers have an important role in deciding not just how, but also how successfully, technology are utilised in classrooms, and hence how much they boost student performance. Given the critical role of teacher education in the use of technology for teaching and learning. Nowadays, computers and instructional software are used at all levels of education. We should be pleased to observe that 21st century schools include cutting-edge technologies.

Objectives: The present study has been carried out to study the provisions of using technology in the teacher education.

Significance of the Study: From the dawn of time, man has relied on technology to make life easier, and his goal has been to continually complicate technology. Modern cutting-edge technology has benefited human existence in every area, including schooling. Future education will undergo a radical shift in which technology will play a more significant role than it does at the now. Several studies have supported the use of technology in education, claiming that it will help students learn on their own, engage with others, continually improve what they know, and stimulate creativity. The New Education Policy made a case for the use of technology in the classroom. Nonetheless, there have been significant difficulties in putting the NEP 2020's ideas for integrating technology into education into practice. The current study is relevant enough for all academics, researchers, and decision-makers in this area.

Role of Technology in Teacher Education: In recent years, various technology applications have been created for educational purposes. Most of these applications complement current teacher-oriented instructional practice, while others allude to novel educational methodologies. Technology may help to improve teacher training. This refers to using technology as a medium in teacher training colleges. It is often discovered that new teachers teach in the same manner in which they were taught as children and as pre-service training students. Teacher educators have employed computers and other digital technology to improve student learning. Some approaches were briefly mentioned.

E-Learning: E-learning refers to the use of electronic educational resources in learning and teaching. Information and communication technology in education, learning technology, multimedia learning, technology-enhanced learning (TEL), computer-based instruction (CBI), computer managed instruction, computer-based training (CBT), computer-assisted instruction or computer-aided instruction (CAI), internet-based training (IBT), flexible learning, web-based training (WBT), online education, virtual education, virtual learning environments (VLE), m-learning, and digital education All of these phrases exist in papers and reviews; the term "e-learning" is commonly used, although its definition and use vary and are vague. These alternative terms are all linguistically more restrictive than "educational technology" in that they refer to the use of modern tools, such as computers, digital technology, electronic media, networked digital devices, and associated software and courseware with learning scenarios, worksheets, and interactive exercises, to facilitate learning.

Mobile Learning: Mobile learning (M-learning) is described as "learning across multiple contexts, through social and content interactions, using personal electronic devices."M-learners, a kind of e-learning distant education, may utilize mobile devices and educational technologies in a variety of settings at their leisure. Mobile learning is the delivery of learning, education, or learning assistance via mobile phones, tablets, and other mobile devices. M-learning technologies include portable computers, MP3 players, notebooks, mobile phones, and tablets. M-learning focuses on the learner's mobility as they engage with portable technology. The use of mobile gadgets to create learning aids and materials is becoming more significant in informal learning.

Mobile Classroom Practices: Mobile devices (such as a Pocket PC) in the classroom may be utilised to improve group cooperation among students by providing communication tools, interactive displays, and video capabilities.

Mobile technology may replace traditional resources including textbooks, visual aids, and presenting tools.

Interactive and multi-mode technology enables pupils to interact with material.

WIFI-enabled mobile devices provide convenient access to information.

Mobile devices provide access to classroom activities and information, extending learning outside the classroom walls.

The mobile phone (via text SMS alerts) may be used for distance education or with students whose courses need them to be very mobile, specifically to send information about the availability of assignment results, venue changes and cancellations, and so on.

Individualized Learning: Adaptable study methods and individualized instruction. It may take into account one's individual learning technique, cognitive style, and learning style. Learners who are shy or introverted benefit from individualized instruction as it is secure, devoid of peer pressure, and helps them become more self-disciplined and confident. It offers the following forms of intrinsic motivation: control (using one's own schedule and method; no need to report to others); curiosity (allowing oneself to explore new and interesting facts without justifying into the group); and fantasy (allowing oneself to daydream on certain aspects of the work).

Online Communities Through the sharing of ideas and best practices, e-learning may unite teacher candidates, educators, specialised communities, experts, practitioners, and interest groups, advancing new knowledge and education. Joint Education E-learning offers a range of virtual environments to develop social and cognitive qualities such as cooperation and communication. Text chat or forums, where students can communicate outside of the main classroom, message boards where students can post questions and answers, and threaded discussions, where facilitators and students can discuss a specific topic and review each other's responses, all encourage learner interaction.

Flexibility: It may be possible for students to choose educational resources based on their interests and knowledge levels. Students may complete self-paced learning modules at their own speed. Active Learning: Promoting self-directed, autonomous, and active learning as well as learning responsibility. Another example of "just-in-time" learning is e-learning, where students choose the material they need to study at the appropriate moment. When using computers, students are often more "on task" and exhibit happier emotions than when they are assigned other chores.

Tools for Educators and Teacher Trainees to Innovate According to Behera (2013), e-learning provides educators and teacher candidates with an extensive array of design tools that foster creativity and idea exchange, as well as the ability to personalize learning materials.

NEP-2020 and Promotion of Technology Enabled Learning: Initiatives to Address the Challenges To stay relevant in the rapidly changing field of educational technology, the NEP-2020 recommends the establishment of a "National Educational Technology Forum (NETF) to maintain a regular inflow of authentic data from multiple sources, including educational technology innovators and practitioners, and will engage with a diverse set of researchers to analyse the data." To assist the development of a thriving body of knowledge and practice, the **NETF** will organize a number of regional and national conferences, seminars, and other events to gather feedback from national and international educational technology academics, entrepreneurs, and practitioners. "The thrust of technological interventions will 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, assessments, etc." (NEP2020,23.5)

Paragraph 23.7 of the NEP-2020 states that new disruptive technologies will need special attention in order to revolutionize the education sector. When the 1986/1992 National Policy on Education was drafted, it was impossible to forecast the disruptive impact that the internet would have. Our current educational system's incapacity to deal with these fast and disruptive developments puts us at a significant disadvantage in an increasingly competitive world. For example, although computers have essentially outperformed humans in the use of factual and procedural information, our schooling at all levels overburdens students with such knowledge at the cost of developing higher-order skills.

Recognizing the inherent hazards and perils of technology, the NEP-2020 emphasises the significance of capitalizing on its benefits and asks for thorough and open examination of these technological interventions in educational frameworks in relevant contexts. The Policy promotes the "National Educational Technology Forum (NETF) as a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration, and so on" (NEP-2020, paras. 23.3-56). The functions of NETF as described in NEP-2020 are as follows:

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; and

d) Articulate new directions for research and innovation.

The **NETF** would facilitate induction, deployment and effective management of technology in education. With the objectives of synchronizing with the emergence of digital technologies and the emerging importance of leveraging technology for teaching-learning at all levels from school to higher education, NEP-2020 recommends following initiatives which are enlisted in para 24.4 of NEP-2020: -

Conduct pilot studies to assess the advantages and disadvantages of incorporating online education.

Create digital infrastructure to keep technology-based solutions up to date with fast technological advancements.

SWAYAM, an online teaching platform, will be expanded to provide instructors a user-friendly and comprehensive set of tools for tracking student development.

Developed a digital library of information, including coursework, learning games, simulations, augmented and virtual reality. For fun-based learning, student-appropriate resources such as applications and gamification of Indian art and culture in many languages will be developed, along with clear operating instructions.

To bridge the digital gap, traditional mass media platforms including television, radio, and community radio will be utilized extensively for telecasts and broadcasts.

Teachers will get training and incentives to adopt learner-centric pedagogy and create high-quality online material utilizing teaching platforms.

Emphasize the use of blended learning approaches to provide an effective learning environment.

Conclusion: In conclusion, while technology integration in education is crucial for progress, addressing the digital divide, infrastructure issues, ethical concerns, and shifting the learning paradigm requires a concerted effort from all stakeholders, including governments, educational institutions, teachers, and students, to fully leverage the benefits of NEP 2020. Technology integration in education refers to the use of technology to enhance the learning experience of students. Using a variety of technologies in the classroom, including virtual classrooms, creates students who are actively engaged with learning objectives.

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