

Advancements in Higher Education System

Amit Srivastava¹, Vartika Yadav², Kashish Agrawal³

¹Assistant Professor, National Post Graduate College, Lucknow, Uttar Pradesh, India.

²Student, National Post Graduate College, Lucknow, Uttar Pradesh, India

³Student, National Post Graduate College, Lucknow, Uttar Pradesh, India

Received: 09/09/2022, Review-1: 21/10/2022, Review-2: 23/11/2022, Accepted: 28/12/2022

Abstract

Development in the higher education system became a major concern for the development of the country. Education needs inspiration, not just information. Only inspired human beings can transform their lives and those around them. Education offers the highest return on investment. An education system is very important for the growth of the nation and indirectly stimulates the economy as it deals with economic issues relating to education and the comparative efficiency of various educational programs and policies. Modern technology has completely reshaped the education system, with digitally empowered classrooms and Multimedia technologies. Educational technology is a medium that is used as a tool to make the learning process more effective and can easily be observed by students. So, that it can increase the learning interest and innovation of students. The right to education is for every citizen so, no child with special needs is being left out of mainstream education. The purpose of this study is to identify how the changes in the structure of the higher education system would result in the growth of the nation. This applied research focuses on the multidisciplinary approach, changing technology in higher education, and using technology in education results in an improved education system. This Feature includes the benefits and challenges of the New Education Policy (NEP 2020) implied by the government. This study shows some ways to improve the higher education system through technology.

Keywords: Educational Technology, Mainstream Education, Multidisciplinary, New Education Policy (NEP 2020)

Introduction

Education is the central concern of individuals, institutions, and countries for their development. To Enhance the quality of education two factors are to be taken care of (course material and delivery method). Educational institutes should devise the course in such a way that students are equipped to face the competitive world and they should come up with exciting ways of teaching. The need of the hour is that educational institutes should work closely

with the industry to formulate educational policies innovatively according to the changing environment. The Evolution of the Educational system from a traditional structure to a modern structure was brought about by the use of technological equipment and the internet. The use of technology has created new paths of learning. (Elumalai et al., 2019)

India plays important role in higher education by introducing Students and talent in many scientific

fields and especially in it and related information. Establishing an Indian institute campus across the world will help make India more visible on the global academic scene. The affluent sector is growing and concentrating on creating a global "brand" for Indian higher education. India communicates with the rest of the world more easily since English is the primary language of science and higher education in India. India has more than 100 research laboratories in diverse fields, some of which are outstanding in terms of research contributions and their relationships with India's economy. The internationalization initiatives in NEP are an important start for the Indian economy and education system.

Currently, India has a G20 presidency which can be a major factor in the change in the Indian education System and its economy. Indians are well known globally as top scientists and university leaders in high tech. India's academic System is now the world's second-largest. To improve the academic environment, the country is actively pursuing reform and improvement through NEP 2020. The main focus is on strengthening research and promoting innovation through richer collaboration. The conference in India of leaders of universities in the G20 countries to acquaint them with India's academic opportunities. The other initiative is the creation of a prestigious scholarship program that would help top Indian institutions' faculty time in leading universities abroad and funding to bring top academics from abroad to India. there should be the active involvement of Indian universities, researchers in the scientific global community through participation in joint projects, and international meetings. It would help in expanding international consciousness in the Indian academic community.(Sector,2021).

In this paper, we will explore possible ways to improve Higher Education System and put a lens on the features of NEP, its implementations, and its challenges. This paper includes insight into the use and importance of various technological resources in higher education that can improve the quality of education in the future.

METHODOLOGY

The systematic review method was used to address the objective of this paper i.e., to find out the ways by which we can improve the higher education system.

This is a planned research design based on a document analysis in which we have followed certain steps: Data Collection, Data Analysis, Finding unanswered questions, and possible ways to solve problems, we have also tried to provide answers to most of the unanswered questions.

National Education Policy 2020:

The National Education Policy (NEP)2020 of India was introduced on 29 July 2020 by The Union Cabinet of India. The National Education policy is the First Education policy of the 21st century which came into force by replacing the National Policy of Education (NPE),1986. National Policy of Education (1986) was introduced by the sixth Prime minister of India Late Shri Rajiv Gandhi. National Policy of Education laid special emphasis on the removal of disparities and equalizing educational opportunities. NPE 1992 was the modified form of NPE 1986 which introduced significant changes in our education system.(Development, 2020) The National Education Policy 2020 is aligned with the 2030 agenda for sustainable development and aims to transform India into a global superpower and to increase the gross enrollment ratio(GER) in higher education by 50%.

The Fundamental Principles of National Educational Policy to reform the higher education system:

- **Multidisciplinary and holistic educational approach** provides flexibility for education by combining science, social science, humanities, arts, and other curriculum activities so that learners can choose subjects according to their skills and interest.
- The urge for teaching the **use of technology** arises because of the dramatic **scientific and technological advancement**. Technology should be used to improve teaching and learning methods. Technology can be used to make education available for especially impaired students.
- **Teaching life skills** such as communication, cooperation, teamwork, and resilience help in polishing students to face the cooperate world and to give a quality learning experience.
- Emphasis should be laid on **conceptual understanding** rather than rote learning and learning for exams. Teaching should also encourage critical thinking, logical decision-

making, and innovation.

- Teaching should focus on building ethical conduct among students by teaching empathy, respect for others, cleanliness, courtesy, compassion toward the poor, gratitude, and self-scrutiny. Constitutional values such as democratic spirit, spirit of service, respect for public property, scientific temper, liberty, responsibility, pluralism, equality, and justice help to develop a vibrant knowledgeable society.
- Research provides an opportunity for practitioners and educators to exchange models of best practice and innovative ideas. Research helps in furthering academic knowledge in individuals' fields of study.
- **Fostering an individual's unique capabilities** by promoting academic and non-academic knowledge. Both teachers and parents should allow the flexibility of learning according to their interests.
- Providing **multiple exit and re-entry options** through the national academic bank of credits for flexible and lifelong learning.
- Promote **multilingualism** by providing teaching-learning in the mother tongue and local dialects.
- **Continuous review** of progress based on sustained research and regular assessment by educational experts. (Development, 2020)

The vision of National Education Policy:

Goal 4 of the UN Sustainable Development Goals (SDG4), which aims to "provide inclusive and equitable quality education and encourage lifelong learning opportunities for everyone," is aligned with NEP-2020's goal. The education system deeply rooted in Indian culture aims to transform India into making a global Knowledge superpower by providing high-quality education to all. To develop a deep sense of respect towards fundamental duties and constitutional values and establish responsibilities in the changing world and promote bonding with one's country.

To inculcate a deep-rooted pride in being Indian with thought, spirit, intellect, and deeds. To fully use India's human resource potential in the higher education industry while ensuring fairness and inclusion.

The mission of National Education Policy:

- To provide access to higher education to all, particularly to vulnerable sections.
- Expanding Accessibility to existing institutions by supporting them and state government and non-government organizations and establishing new institutions and removing regional or other imbalances that exist at present.
- Initiating and implementing policies and programmes for strengthening research work in both public and private sectors.
- Investing in infrastructure and faculty in higher education centers and promoting academic reforms towards restructuring the inclusion of the hitherto deprived communities.

Implementations of National Education Policy:

Various Educational Bodies including MHRD, CABE, Union and State Governments, education-related Ministries, State Departments of Education, Boards, NTA, and the regulatory bodies of school and higher education will together lead to the implementation of this policy. The following guiding concepts will be used throughout implementation:-

- For implementing the policy, it is mandatory for the citizens to understand the policy's intent.
- Each Policy has several steps thus it is important to implement the policy initiatives in a planned and step-by-step manner for the successful implementation of policy.
- To build a strong base for the educational system it is important to take urgent and critical actions first by ensuring optimal sequencing of policy points.
- Desired objectives are achieved by the full-fledged implementation as this policy is interconnected and holistic.
- Both centre and state governments should work together for planned, monitored, and collaborative implementation of the policy.
- Timely inoculation of required human, infrastructural and financial resources by the central and state government is important for the execution of the policy.
- Careful analysis and review of the implemented steps are required to achieve effective dovetailing of all methods.

Methods used in the implementation of National Education Policy:

- **Regional Disparity:** Government Should take action to develop higher educational institutes in under-served districts to reduce regional disparity. Government policies should focus on increasing seat reservations for Special Education Zones (SEZs) (Scheduled tribes, Minority groups). An increasing number of hotels in urban areas and offering technical and professional courses in institutions of rural areas, underserved regions, and aspirational districts. (NIEPA, 2020) Increasing budget allocation for scholarships, for students of rural and marginal communities and providing scholarships to women and persons with a disability, and also deriving policies for the private sector to provide scholarships for engineering and professional subjects.
- **Providing a better environment in Higher Education:** Updating and outreach activities are seen as significant instruments for providing information on academics and services offered by higher education institutes by using significant measures such as: updating web information on scholarship and application forms, maintaining newspaper advertisement campaigns, increasing enrollment by providing proper guidance in the admission process. HEIs should provide a safer environment for women and the administration should focus on making the campus more appealing, well-equipped, and disabled-friendly.
- **Increasing Employability Potential:** NEP 2020 priorities to increase employability potential in HE graduates. To develop employability potential we need to emphasize Information and Communication Technology (ICT) skills, Science Technology Engineering, and Mathematics (STEM) (Kavita, 2020) skills, and employability skills such as cognitive skills, generic attitudinal skills, socio-emotional skills, communicational skills, independent working skill, and decision-making skill which are valued by current industry. The employment opportunity should be equally distributed among all candidates. Internships help students to gain work experience and secure future career opportunities. It also helps to build professional networks and job-relevant employability skills. The government has also provided a special tool in the field of research and development to provide students to gain additional knowledge in their subject during their academic session. The government has also formulated a body

named National Research Foundation (NRF) to fund research work.

- **Increasing teaching and learning potential:** Universities should hire teachers with educated knowledge and experience and organize workshops to teach new technological skills to teachers so they can be implemented in teaching. Teachers should also be provided with sensitization knowledge under the sensitization programme so that they can value diversity and equity and ensure that academic leadership opportunities are equally distributed among the students. (Kumari Asst Professor & Kumari, 2020) There should be enrichment programmes that provide an opportunity for willing senior students to get the role of teacher assistant. HEIs should change the approach to remedial programmes by providing advanced enrichment classes to students who need more attention this will make the actual class more understanding and interesting.
- **Changing evaluation strategy:** Earlier examination pattern for higher education was internals of 30% and semester exams of 70%. In this most of the time was wasted in conducting exams and evaluating the results so a system of Grade Point Average (GPA) was introduced to assess the academic performance of a student. **Academic Bank of Credit (ABC)** is introduced to provide flexible learning pathways for students to combine work and education at different times. It is a digital way to award credits to a student's account. It helps them combine courses from discipline core competencies, interdisciplinary competencies, social and life skill competencies, and vocational skills competencies. Under ABC students can exit the course and enter within a stipulated period by using the credits awarded to them.

Challenges in the path of changing the High Education System (NEP):

- **Sheer size and diversity of India:** India is a vast country with the second-largest education system all over the world. 3.74 crore students are enrolled in approximately 1,000 universities, 39,931 colleges, and 10,725 independent institutions in India's higher education system. There are 28 states and 8 union territories in India. It will be a challenging for the government to remove cultural disparity, geographical disparity, gender disparity, and socio-economic disparity.

- **Rigid mindset of people:** Moving from a rigid content-driven learning education system to an experience base learning educational system is a revolutionary change. Bring about an attitudinal change in minds of students, teachers, and parents to enforce innovative and experience-based learning. The education system should focus on imparting the highest quality education so it becomes the most attractive option for parents to educate their children.
- **Cooperation and support across educational system regulatory bodies:** Cooperative working between the centre and the state government is essential for the easy and effective working of the educational system. Most services related to education are performed by the state government and the function of the central government is to monitor the state government over the principles of NEP thus the centre and state governments need to work in a cooperative and supportive manner to implement NEP.
- **Focusing on the Private sector:** To include the private sector, especially in the case of higher education as 70% of students in higher education study from private colleges and universities. To fulfill the extensive vision of NEP it is equally important to focus on the private sector by providing them with financial resources. (Kamaldeep & Sarna, 2021)
- **Allocation of GDP towards education:** To reach the goals of the new policy, the country has to raise public spending on education to 6 % of GDP (Gross Domestic Product) while earlier it was only 3.1%. The Centre and the States will work together to increase public investment in the education sector to reach 6 % of the Gross Domestic Product (GDP) at the earliest, says National Education Policy 2020.
- **Implementing Multilingualism:** India consists of 28 states and 8 union territories with well-defined 22 official languages spoken in different areas. The Indian Constitution gave top priority to teaching in the mother tongue, this concept is in total agreement with the theme of UN world Mother Language Day "To develop the potential of multilingual education to be acknowledged in education, administrative System, cultural expression and cyberspace". It would be difficult for the government to implement a multilingual approach to the new education policy.
- **Increasing Gross enrolment ratio:** To increase GER by 50% government needs to establish 1 university per week in the next 15 years with the best teaching and infrastructure. Private institutions contribute to a higher Gross Enrolment Ratio thus to increase the overall GER the government needs to focus on public colleges and universities. GER can be increased by providing easy access to education and equity and equality in education.
- **Spreading education to everyone:** This NEP policy also focuses on bringing the 2 crore children back to school who are no more a part of the education system. It was estimated by the government to bring this into implication the government needs to set up around 50 schools per week to bring 2 crore students back to school in the next 15 years. Setting up 50 schools per week is not just in terms of infrastructure but also in terms of principle and teachers. It should be taken care of that the students complete their higher after completing their secondary education.
- **Enhancing quality of education:** Besides building up universities it is also important to create a pool of trained teachers and practitioners to improve the quality of education. Colleges should have well-equipped labs, well-managed libraries, efficient sports facilities, and cultural student associations to make learning versatile. Changing the ways of assessment so that students could develop more of a practical approach.
- **Implementing interdisciplinary approach:** For a long time, the colleges and universities in India have been departmentalized but to initiate inter-disciplinary higher education it is needed to produce a culture shift in the higher education system. (Development, 2020) To implement interdisciplinary teaching teachers and students both should focus on incorporating skills such as problem-solving, logical thinking, and soft skills.
- **Establishing a research foundation:** To continuously create and acquire new knowledge, the government has brought up the concept of research in UG and PG courses. The government has established National Research Foundation to fund outstanding peer-reviewed research and increase students' interest in research.

E-learning:

E-learning is the modern approach to learning which allows interaction between teacher and student via digital devices. E-learning provides online classes and portals to access the courses outside the bounded classrooms by the implementation of information technology into the development, distribution, and management of education or teachings. E-learning systems, such as Canvas, Blackboard Learn, ANGEL, D2L Brightspace, Moodle, Sakai, Pearson LearningStudio, Homegrown, Schoology, and WebCT allow the smooth phase of E-learning.

Role of E-learning and Online learning during a covid pandemic:

Out of 195 countries all over the world, 191 countries were affected by covid-19. Perhaps for the first-time lockdown was imposed all over the world and around 429 universities across the world were shut down and started online classes with any available digital tools to ensure the continuation of teaching and learning. The pandemic situation forces us to utilize online education platforms to deal with the terrific situation of education during that time. At that time, perhaps it was most important to motivate people so that they can deal with the covid situation that was difficult to be handled completely but at least we can find alternatives and try to cope with the situation instead of fearing and losing hope. Pandemics open the path of a new commercial education platform. (Kamaldeep & Sarna, 2021)

To ensure the proper execution of social distancing, educational institutes have strived to find new means of education. Technologies were leveraged to increase access to quality education in response to educational closures during the lockdown. Crucial planning was required to be adopted in the education section during the COVID-19 pandemic because the higher education sector plays an important role in the economic future of a country that was facing a financial crisis during the pandemic. (Teräs et al., 2020) Techniques such as Open Distance Learning (ODL) were adopted to solve the problem of distribution of education, using a range of technologies including print, radio, and TV.

All the government and non-government initiatives for online teaching and learning during covid 19 are as follows:

- DIKSHA (Digital Infrastructure for Knowledge Sharing)
- SWAYAM, Manodarpan (for psychological support)
- DTH Swayam Prabha (television channels)
- Gyan Darshan (an educational TV channel, which by government order was telecast by private DTH operators such as Tata Sky, Airtel, etc.)
- The Prime Minister's eVidya platform (to unify digital, online, and on-air education efforts)
- Digital Daan (by the Digital Empowerment Foundation, to collect electronic devices such as smartphones, laptops, etc., and redistribute them to rural, tribal, and marginalized areas/populations in 130 districts of 25 states across the country)
- 289 community radio stations (Status of Distance Learning in India, n.d.)

All Higher Education Institutes switched from face-to-face classes to home teaching and learning using virtual classroom applications such as Google Meet, Microsoft Team, Zoom, Moodle Cloud, Skype, etc. in the absence of a dedicated, well-networked, and dynamic national online teaching-learning platform.

Technology in Education:

Blockchain: Blockchain technology is a distributed database that stores transactional records in digital format. (Samah et al., 2019) It is a ledger that plays a crucial role in cryptocurrency systems such as bitcoin but it also has many applications in the field of education, such as:

- Blockchain provides a high level of trust and privacy thus it is very helpful in issuing digital certificates, and managing academic credentials, transcripts, or any other forms of accomplishment record. Only Students and certified organizations are allowed to access and modify the stored data under certain conditions.
- Blockchain applications were improved to enhance the learning environment for students and the attainment of competencies within the educational scope. To evaluate students' performance based on multi-learning activities by giving meaningful feedback.

- Blockchain technology supports the collaborative learning environment such as a ubiquitous learning system (u-learning), and an interactive multimedia system to connect students with teachers anytime and anywhere. Employing blockchain will improve the school learning environment and support the decision-making process.
- EduCTX is a reliable blockchain-based system that is a way to achieve efficiency, transparency, and technological advancement in educational Institutions. It removes the involvement of any third-party organization in transferring credential records or fees among the organizations. This envisions various HEIs would join forces to create a globally efficient, simplified, and ubiquitous environment to avoid language and administrative barriers.

Blockchain technology contributes to the education industry on a large scale by including high security, low cost, enhancing student assessments, better control of data access, and enhancing accountability and authentication. Blockchain technology is used to solve some issues related to students' interactivity in the e-learning environment.

Information Communication Technology (ICT): ICT, means all devices, networking components, applications, and systems that allow people and organizations to interact in the digital world. Information and Communications Technology (ICT)(Sciences, 2014) is a magic bullet that improves teaching and learning, disciplines students as a skillful future workforce, and enhances democracy both in educational institutions and in the larger society. ICT improves teaching practices in higher education by implementing changes in classrooms such as new hardware resources, whiteboards, netbooks and tablets, educational platforms, and digital content. Advancement in technology makes possible an education paradigm transformation through continuous devolvement such as different wearable technologies and the Internet of things (IoT). In short, technologization is closely connected to educationalization.

ICTs are of great help in updating all information and resources so that students can access the most relevant data which is not easily available using traditional ways of education. It is an adjustable way of learning which helps in developing discernment

i.e., being able to contrast various information found over the internet.(Alonso-García et al., 2019) ICT increases the interactivity and collaboration between students which promotes an active and participatory attitude in students that develops leadership, teamwork, and cooperative qualities which helps them to create team projects, cooperate and learn from each other. ICT stimulates the development of creative and innovative aptitude through the use of resources like websites, graphics, videos, and games.

Virtual Reality Hologram and Augmented Reality:

The technologies such as overhead projectors, computers, and simulation are replaced by new innovative technologies such as augmented reality, virtual reality, and digital holograms. Virtual reality can be defined as a simulation that employs pose tracking, 3D near-eye displays, and computer graphics to create a realistic-looking world that responds to the user's input in real time. (KAPLARSKI et al., 2016)Virtual reality (VR) systems such as Virtual chat applications allow users to meet up with multiple users in a virtual environment and participate in real-time lectures or e-learning games. The main target of the VR application is to enhance communication between students and lecturers via, email or scheduled skype meeting one on one which supports chat forums, discussion boards, and Q&A in a virtual environment to build an online community and help lecturers use their time more efficiently. A digital hologram is an application of VR that acts as a mediator by creating 3-d images of objects that are absent, in education digital holograms (TÜRK & SEÇKİN KAPUCU, 2020)can be seen as providing realistic images to users communicating through virtual images among people in different locations. The use of digital holograms will be appropriate in the study of abstract topics in science, such as microscopic creatures, extinct creatures, systems in our body, nature and particulate structure of matter, biodiversity, cells and divisions, reproduction growth and development of the living creature which contribute to the education on a large scale and structuring future knowledge with innovative ideas. Augmented reality brings books to life when they are scanned with a mobile phone camera which helps in access more and more information. Such Multimedia techniques are a useful tool to bring different subjects closer to students completely and entertainingly.

CONCLUSION

Advancement in higher education can be achieved by focusing on the quality of education, and developing new strategies such as the involvement of technology in education, including the multilingual and multidisciplinary approach to education which helps in the integration of the higher education system. (Ahir, 2014) The goal of improving the higher education system is to help people transform themselves, help them realize their full potential, and what their background is, everyone can and should have access to great learning experiences. By studying the current scenario of the higher education system and the new

education policy introduced by the government of India we have found the challenges in the implementation of the new education policy which will be faced during the education paradigm transformation. In this study, we have found that technologization is closely connected to educationalization as advancement in technological resources also improves the efficient flow of education. Further research would include the setbacks of NEP and the technologies used in education as well as the effects of implementing the Policies of NEP. Education also contributes to a country's economic development. Above all, it helps a nation's residents create a better society. Any country's basis is its educated population.

References

- Ahir, K. V. (2014). Indian higher education: some reflections. *Intellectual Economics*, 7(1), 42–53.
- Alonso-García, S., Aznar-Díaz, I., Cáceres-Reche, M. P., Trujillo-Torres, J. M., & Romero-Rodríguez, J. M. (2019). Systematic Review of Good Teaching Practices with ICT in Spanish Higher Education Trends and Challenges for Sustainability. *Sustainability (Switzerland)*, 11(24).
<https://doi.org/10.3390/su11247150>
- Development, R. (2020). National education policy 2020. *Economic and Political Weekly*, 55(31), 4L.
<https://doi.org/10.1201/9781003254942-12>
- Elumalai, K. V., Sankar, J. P., Kalaichelvi, R., John, J. A., Menon, N., Alqahtani, M. S. M., & Abumelha, M. A. (2019). Factors Affecting The Quality Of E-Learning During The Covid-19 Pandemic From The Perspective Of Higher Education Students. *Journal of Information Technology Education: Research*, 19, 731–753. <https://doi.org/10.28945/4628>
- Kamaldeep, M., & Sarna, K. (2021). National Education Policy-2020 : A Critical Review. 1(3), 8–14.
- Kaplarski, K., Paunović, V., & Jevremović, V. (2016) Perspectives and Challenges of Distributed Virtual Environments in E-Learning. *Econference.Metropolitan.Ac.Rs*, September, 29–30.
- Kavita, D. (2020). Digital India and Education: New Initiatives in NPE, 2020. *International Journal of Advanced Research in Science, Communication and Technology*, 182–184.
<https://doi.org/10.48175/ijarsct-667>
- Kumari Asst Professor, S., & Kumari, S. (2020). NEP 2020 challenges to teachers education. 6(10), 420–424. www.allresearchjournal.com
- NIEPA. (2020). NEP 2020: Implementation Strategies. *National Institute of Educational Planning and Administration*, 110016(December), 1–212.
- Amah, A., Marwah, A., Saira, G., & Ali, A. (2019). applied sciences Blockchain-Based Applications in Education : *Appl. Sci.* 2019, 9, 2400, 1–18.
- Sciences, E. (2014). The Paradigm Shift in Education that Involves the Information Society and ITC (Information Technology and Communication) *Psychologist at USSE Support Unit for Special Education Autonomous University of Barcelona Doctor in Philosophy and Education Science.* 4(14), 207–212.
- Sector, H. E. (2021). Higher Education In India - Issues and Challenges. *Assessment, Accreditation and Ranking Methods for Higher Education Institutes in India: Current Findings and Future Challenges*, 134–139.
<https://doi.org/10.2174/9781681088174121010016> Status of Distance Learning in India. (n.d.).

- Teräs, M., Suoranta, J., Teräs, H., & Curcher, M. (2020). Post-Covid-19 Education and Education Technology 'Solutionism': a Seller's Market. *Postdigital Science and Education*, 2(3), 863–878.
<https://doi.org/10.1007/s42438-020-00164-x>
- Türk, H., & Seçkin Kapucu, M. (2020). Innovative Technology Applications in Science Education: Digital Holography. *Journal of Education in Science, Environment and Health*.
<https://doi.org/10.21891/jeseh.748662>