



# Transforming Pedagogy Through Digital Platforms: Insights from NEP-2020

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## Abstract

Digital technologies have greatly changed how teaching and learning are practiced in tertiary education because of the sudden improvement in them. This paper will investigate the nature of digital platforms in transforming pedagogy in Indian higher learning in the name of the National Education Policy 2020. The policy insists on digital technology integration, online learning and new teaching methods in order to improve accessibility, flexibility of education and its quality. The research is qualitative research done in the form of descriptive research utilizing secondary data which are expressed in the form of the NEP-2020 policy document, government reports, scholarly articles, and educational technology publications. The study examines significant digital projects including Learning Management Systems, online course, digital repositories, online classroom and available platforms like SWAYAM and Swayamprabha which facilitate technology based learning settings using thematic and content analysis. The results suggest that the digital platforms can facilitate the student-centered learning process, enhance the effectiveness of the teaching process, and increase the level of educational opportunity offered to learners in different geographical locations. Nevertheless, a number of challenges have been noted by the study as well and they include poor digital infrastructure, digital divide, poor digital literacy among teachers and learners and data security and online assessment issues. On the whole, the study exemplifies that the digital infrastructure and the digital competency of the faculty are crucial to the successful implementation of NEP-2020 and the development of innovative and inclusive systems of higher education in India.

## Keywords

Digital Pedagogy; Digital Platforms; Higher Education; NEP-2020; Technology-Enabled Learning



## Introduction

The digital revolution of higher education is a significant shift in the 21<sup>st</sup> century due to the fast development of information and communication technologies. Such development has changed the paradigms of traditional classroom-based frameworks to vibrant and technology-driven ecosystems, which focus on accessibility, inclusivity and lifelong learning. National Education Policy 2020 is the primary policy tool that should direct this change, and it actually promotes the adoption of digital tools to promote equal learning opportunities on various geographical areas (Sharma, 2025).

The use of digital platforms and online learning has taken an even more central stage in the teaching and learning processes. Multimedia integration, real-time communication, and personalized learning have become easily integrated due to such innovations as Learning Management Systems, Massive Open Online Courses, virtual collaboration tools (e.g., Zoom, Microsoft Teams), and adaptive learning software. Beyond increasing educational access (especially in remote and underserved regions), the tools have also improved the efficacy of pedagogy through active learning, explicitly structured feedback, and collective knowledge building. Also, the introduction of the National Educational Technology Forum is a tactical move towards making research, development, and innovation formal in the digital realm (Maurya and Sharma, 2023).

One of the significant policy frameworks that propelled the country towards this path is the National Education Policy 2020 that stated a visionary plan of integrating technology in institutions of higher learning. NEP-2020 focuses on the infrastructure building to create the resilience of digital infrastructure, like high-speed broadband coverage in the whole country, National Educational Technology Forum, and open educational resources. It proposes blended learning frameworks, faculty training in online capabilities, and equal opportunities to technology usage, which will help to attract Indian HEIs to the world of innovative education. At the center of this change is the focus on experiential learning and self-directed studies, aiming to decrease the historical dependence on rote-memorization (Sharma, 2025). The policy seeks to balance administrative efficiencies with pedagogical flexibility by using the ICT tools to facilitate multidisciplinary and technology-driven academic environment including virtual classes and online repositories (Prajapat et al., 2024).

The role of digital pedagogy, including such novel instructional strategies as flipped classrooms, gamification, virtual simulation, and AI-based analytics cannot be overvalued. These strategies will build critical thinking, problem solving, and digital literacy required to prepare graduates with 21<sup>st</sup> century skills in the world of Industry 4.0 needs. Digital pedagogy enhances geographically and socio-economically central education systems that are resilient and student-focused and can adjust to disruptions such as COVID-19 pandemic. However, the shift to these superior digital models requires a sharp analysis of the structural issues that remain in place and especially the digital divide that still obstructs the opportunity to engage with marginalized communities in an equal manner (Kaurav et al., 2021, p. 24; Singh and Singh, 2024, p. 56).

This paper examines the game changing ability of digital platforms in transforming the pedagogy in the NEP-2020 model. It aims to provide evidence-based knowledge and practical suggestions by researching on implementation policies, problems, and results of specific Indian universities of higher education. The research has high implications to the policymakers, teachers and institutions aiming at achieving the objectives of NEP-2020, and eventually improving the quality of higher education in India to a more equitable and innovative higher education system. The paper assesses the systemic capabilities of the digital initiatives to promote holistic and skill-based pedagogical practices based on the synthesis of findings of the policy documents and recent scholarly inquiries (Swargiary, 2023, p. 2; Yadav and Yadav, 2023, p. 4).

## Literature Review

Digital pedagogy has become a pillar of the contemporary higher education and the use of technology to improve the process of teaching and learning. According to the previous research, digital tools like Learning Management Systems, virtual classrooms, Massive Open Online Courses, and collaboration tools play an important role in supporting the blended learning



and online instructional practices. An example is how these networks have contributed to integrating multimedia, real-time communication, and instructional use through personalization thus increasing access to education in remote regions (Prajapat

et al., 2024). Online and face-to-face learning model known as blended learning has been proved to support the active learner and data-based feedback which fits the requirements of Industry 4.0 (Maurya and Sharma, 2023).

The extensive academic discourse highlights the tremendous value of the digital technologies on teaching procedures and students interaction. Adaptive learning programs, gamification and AI-based analytics are examples of ICT tools that promote the adoption of critical thinking, problem-solving and digital literacy (Singh and Singh, 2024, p. 56). The survey conducted after the COVID-19 shows that virtual simulations and online libraries improve the knowledge building process and provide experiential learning, eliminating the need to memorise and learn information by heart (Kaurav et al., 2021, p. 24; Sharma, 2025). Additionally, digital divide bridging initiatives like SWAYAM or Swayamprabha offer the underserved population fair access to resources, to which infrastructure gaps remain a problem (Kaurav et al., 2021, p. 24; Singh and Singh, 2024, p. 56).

The National Education Policy 2020 clearly focuses and places special attention on digital education and the integration of technology as the key to changing the higher education. It supports the idea of nationwide high-speed broadband and open educational resources along with the creation of National Educational Technology Forum to stimulate the development of digital pedagogy and research (Maurya and Sharma, 2023; Sharma, 2025). NEP-2020 encourages blending and learning, upskilling of faculty, and an interdisciplinary approach with the help of such tools as online courses and e-learning materials, and wants to pursue holistic and skill-oriented education (Sharma, 2025; Yadav and Yadav, 2023, p. 4). The inclusive policy also emphasizes with career counseling and vocations integrations that, with the aid of technology, are required to mitigate socio-economic inequalities (Singh and Singh, 2024, p. 56; Swargiary, 2023, p. 2).

Regardless of these developments, the current literature indicates that the implementation process of NEP-2020 in Indian Higher Education Institutions has a research gap in terms of empirical research on the outcomes of digital platforms on pedagogy even in the presence of long-term digital divides (Kaurav et al., 2021, p. 24; Singh and Singh, 2024, p. 56). Although the literature addresses policy frameworks and instruments, the impact of organizational policies, struggles, and problems, as well as the possible outcomes, are scarce in individual HEIs (Maurya and Sharma, 2023; Prajapat et al., 2024). This highlights the necessity of the current research that examines the transformative opportunities, providing evidence-based information and suggestions to fill this gap and further promote NEP-2020 objectives (Swargiary, 2023, p. 2; Yadav and Yadav, 2023, p. 4). In line with this, the research approach, therefore, follows a qualitative research methodology, which will make use of secondary data in the form of government reports and peer-reviewed literatures to critically assess systematic integration of these digital initiatives.

## Methodology

The research design to be used in this study is a qualitative descriptive research design, where the researcher will consider how digital platforms are reshaping pedagogy in higher education following the National Education Policy 2020. The study is founded on the secondary data, which allows gaining the holistic idea of the policy trends, scholarly opinions, and institutional changes in connection with the digital education. The perspectives of the vision, initiatives, and strategies suggested in NEP-2020 to integrate technology in teaching and learning processes have been explored using secondary sources. In such a way, the approach will enable the study to synthesize the currently available knowledge and obtain the insights regarding the role of digital platforms in transforming pedagogical practices in the institutions of higher learning.

Secondary sources were used to collect the data used in this research since the goal of this study is to investigate the extent of negotiation in higher education policies and the various government reports provided in this area by organizations such as the University Grants Commission (UGC) and the Ministry of Education, and other scholarly materials that include research articles, journals, books, and conference papers. Moreover, the educational technology reports and institutional publications



were also studied to learn more about practical changes of digitized learning environment. The thematic analysis and the content analysis methods were used in the organization of the gathered data and this tool enabled the identification of the important themes connected with the factors of digital pedagogy, integration of technology, opportunities, and challenges in

the implementation of digital education changes within a higher education setting. This approach helped in a systematic interpretation of policy and research literature to come up with meaningful conclusion relating to digital transformation in higher education.

### **Digital Education Initiatives under NEP-2020**

The National Education Policy 2020 proposes an inclusive system of digital education focusing on the introduction of technology to transform the concept of higher education in India. The main projects are the initiation of the National Educational Technology Forum that will promote research, innovation, and development in digital pedagogy (Kaurav et al., 2021, p. 24; Maurya and Sharma, 2023; Sharma, 2025). NEP-2020 additionally facilitates high-speed broadband nationwide, online education, e-learning tools, and platforms (such as SWAYAM and Swayamprabha) in delivering scalable and equitable content (Kaurav et al., 2021, p. 24; Sharma, 2025). They are accompanied by blended learning models, virtual simulations, online libraries, Learning Management System, and ICT-based infrastructure that includes virtual classrooms and collaboration tools (Prajapat et al., 2024; Singh and Singh, 2024, p. 56).

Online learning systems and digital infrastructure are essential, as they allow the integration of multimedia, real-time communication, and adaptive learning services, irrespective of the geographical limit (Maurya and Sharma, 2023; Sharma, 2025). The technology-enabled teaching with AI-powered analytics, gamification, and personalized tools shifts the focus on the memorization to the instructional experience based on skills and corresponding to the Industry 4.0 requirements (Prajapat et al., 2024; Singh and Singh, 2024, p. 56). Such efforts contribute to being more accessible by removing the digital divide, especially in underserved and distant populations through measures such as multilingual content and occupation integration (Kaurav et al., 2021, p. 24; Singh and Singh, 2024, p. 56). Self-directed, multidisciplinary strategies enhance flexibility to facilitate any time anywhere learning and career counseling (Sharma, 2025; Swargiary, 2023, p. 2). It would improve quality through data-driven feedback, the encouragement of critical thinking, and holistic development that would prepares students to work in a technology-driven future (Maurya and Sharma, 2023, p. 4).

Digital repositories, virtual labs, and innovations supported by NETF are all digital resources and tools used in higher education institutions to build knowledge collaboratively and conduct research (Kaurav et al., 2021, p. 24; Prajapat et al., 2024). By ensuring a transition to more vibrant learning environments based on the learner, in which the services provided are more equal, innovative, and skill-based, (Sharma, 2025; Singh and Singh, 2024, p. 56), they remake the traditional system. These reforms have a transformative potential of sustainable and inclusive education despite the obstacles, such as infrastructure gaps (Kaurav et al., 2021, p. 24; Maurya and Sharma, 2023).

### **Transforming Pedagogy through Digital Platforms**

Digital platforms under NEP- 2020 are changing teaching and learning methods in higher education in India by helping to move past the traditional lecture-based systems to dynamic, interactive, and student-centered methods. The technologies make it possible to make it more personal, flexible, and inclusive, which can be associated with the focus on experiential learning, skill-building, and equity seen in the policy (Maurya and Sharma, 2023; Sharma, 2025).

The center of this transformation has been produced by Digital Learningmanagement Systems, blended learning, and virtual classrooms. LMS platforms, which are embedded on SWAYAM, support content delivery, assessment, and progress tracking, which enable teachers to develop multimedia-based courses that are available on demand (Kaurav et al., 2021, p. 24; Prajapat et al., 2024). Blended learning is a combination of the resources that are online and the face-to-face interactions, which encourages self-directed learning and decreases the rote memorization in favor of practical application (Sharma,



2025a, 2025b). ICT infrastructure facilitates virtual classrooms that can be used in real-time collaboration thanks to video conferencing, breakout rooms, and various other interactive solutions, which break the geographical boundaries (Maurya and Sharma, 2023; Prajapat et al., 2024).

For the reasons mentioned above, these technologies promote student-centered learning and interactive teaching by providing learners with adaptive technologies such as AI-based analytics and gamification, which cater to the individual requirements of learners and invite learners to participate in the learning process (Prajapat et al., 2024; Singh and Singh, 2024, p. 56). As an example, virtual simulations and collaborative tools regulate the emphasis put on the instructor, instead favoring peer discussions and solving problems which improve critical thinking and creativity as envisaged in NEP-2020 (Maurya and Sharma, 2023; Yadav and Yadav, 2023, p. 4).

The use of digital tools has a great impact on effective teaching and better learning. Teachers get more information to provide them with individual feedback, and the students receive the advantages of an integrated multimedia learning process and the ability to access the information at any time, which increases their retention and learning (Kaurav et al., 2021, p. 24; Sharma, 2025). IITs and NITs that use the SWAYAM to develop blended courses in higher education institutions experience the added benefit of greater access to enrolment in remote regions and better employability due to vocational modules (Sharma, 2025; Singh and Singh, 2024, p. 56). On the same note, virtual laboratories supported by NETF in universities have improved research and experiential learning and have narrowed the digital gap among underserved students (Maurya and Sharma, 2023; Prajapat et al., 2024).

In general, the platforms do not only improve the quality of pedagogy but also train graduates in the Industry 4.0 by facilitating an inclusive, innovative education (Swargiary, 2023, p. 2; Yadav and Yadav, 2023, p. 4).

### **Opportunities of Digital Pedagogy**

Digital education has opened new opportunities in higher education, using technology to enhance access and innovations, as well as to meet the vision of NEP-2020 in the context of experience, equity, and work across disciplines (Maurya and Sharma, 2023; Sharma, 2025). These possibilities enable institutions to provide high-quality education that is inclusive and overcomes conventional constraints as well as equips future students with the skills to survive an ever-changing and technology-intensive world (Kaurav et al., 2021, p. 24; Singh and Singh, 2024, p. 56).

IT-based platforms are very effective when it comes to helping more and remote students access education and learning opportunities. Online learning resources, digital libraries, e-learning tools, such as SWAYAM, Swayamprabha, and other initiatives make scalable and equitable content accessible to all geographic regions and socio-economic lines (Kaurav et al., 2021, p. 24; Sharma, 2025). These tools help to bridge the digital divide by providing the marginalized communities with access to high-speed broadband nationwide and open educational resources, which would allow them to obtain quality education with multilingual content and vocational modules (Maurya and Sharma, 2023; Singh and Singh, 2024, p. 56).

With technology, there is impressive flexibility, cooperation, and individual learning opportunities. Multidisciplinary approaches and career counseling based on specific needs is made possible through self-managed, any-time, anywhere learning with the help of Learning Management Systems, blended learning, and virtual classes (Sharma, 2025; Swargiary, 2023, p. 2). Peer discussions and knowledge building as well as global collaborations occur on collaborative platforms, virtual laboratories, and real-time interaction tools, such as video conferencing and breakout rooms, in place of intimidating structures (Kaurav et al., 2021, p. 24; Prajapat et al., 2024). Robotics, data mining, and adaptable tools make the process of teaching personalized and encourage critical thinking, creativity, and skill-building instead of memorization (Singh and Singh, 2024, p. 56; Yadav and Yadav, 2023, p. 4).

Online resources have a huge capacity to improve teaching innovativeness. Instructors are able to combine multimedia, virtual trips, and information-based feedback to establish participating, expert learning systems that are consistent with the



requirements of Industry 4.0 (Maurya and Sharma, 2023; Prajapat et al., 2024). Innovations backed by the National Educational Technology Forum promote research, development, and empowerment of teachers and change lecture-based models towards innovative and inclusive practices (Kaurav et al., 2021, p. 24; Sharma, 2025).

These possibilities are directly correlated with the interests of NEP-2020 in holistic development, equality, the incorporation of technology, and quality education. Digital pedagogy promotes the objective of the policy on a sustainable, learner-centered system, which promotes innovation and equips graduates with the tools to meet future demands (Sharma, 2025; Swargiary, 2023, p. 2; Yadav and Yadav, 2023, p. 4).

### **Challenges of Digital Transformation**

Although digital pedagogy can transform higher education, its application has substantial challenges that do not help to create equitable access, pedagogy, and is not consistent with the vision of NEP-2020 of creating inclusive and technology-based education (Maurya and Sharma, 2023; Sharma, 2025). The most significant aspects are the digital divide, insufficient infrastructure, lack of digital literacy, barriers to adoption among teachers and learners, data security issues, changes to assessment processes, and inequality in access to technology, all of which hinder the intentions of the policy of holistic development and equity (Kaurav et al., 2021, p. 24; Singh and Singh, 2024, p. 56).

The biggest impediments are between the digital divide and a lack of infrastructure specifically in the rural and underserved areas. Where NEP-2020 is encouraging nationwide broadband and systems such as SWAYAM, disparities in the high-speed internet, devices, and ICT-enabled centres marginalize the access of learning, thus improving socio-economic disparities and scaling capabilities (Maurya and Sharma, 2023; Sharma, 2025). It is further complicated by low digital literacy levels of students and faculty since a significant number of them do not know how to navigate online platforms, and as such, they do not make use of such resources as LMS and virtual labs (Kaurav et al., 2021, p. 24; Maurya and Sharma, 2023).

Online learning sites have significant problems with adoption by teachers and students. Teachers are unhappy with the transition to the model of traditional practices because they lack training, and the students find it hard to participate in self-directed learning, technical malfunctions, and missing in-person communication in blended or virtual classes (Prajapat et al., 2024; Sharma, 2025). This shift requires redesigning pedagogies, but reluctance and the lack of expertise hold back interactive-based and experiential strategies that NEP-2020 puts in the spotlight (Yadav and Yadav, 2023, p. 4).

Other concerns are security of data, integrity of assessment and access to technology. Cyber threats interfere with student information on websites such as SWAYAM, whereas online exam proctored by an instructor has cheat threats and validity problems in the context of the in-person test (Maurya and Sharma, 2023). Inequality in access to devices and software ensures the perpetuation of inequities and makes NEP-2020 focus on equity (Singh and Singh, 2024, p. 56; Swargiary, 2023, p. 2).

All these difficulties hamper NEP-2020 implementation because they slow down technology integration, increase disparities, and blur quality results. Otherwise, in the absence of specific initiatives such as teacher training, investments in infrastructure, and an inclusive policy through NETF, digital pedagogy will continue to solidify, instead of closing the educational gap (Kaurav et al., 2021, p. 24; Maurya and Sharma, 2023; Sharma, 2025).

### **Conclusion**

Pedagogy in higher education is changing because the digital platforms enable more people to access it, learn to their own pace, and obtain new teaching methods. The National Education Policy 2020 vision focuses on the use of digital resources in enhancing accessibility and quality of higher education through technology-driven learning and blended education. Online learning sites, virtual classrooms and learning management systems are some of the initiatives that provide student-centered and flexible learning environments. Nevertheless, such issues as poor digital infrastructure, insufficient digital literacy, and



digital divide are still major challenges. To create a resilient and innovative higher education ecosystem, it is necessary to improve the technological infrastructure, faculties training, and access to the digital resources equally and without exception.

## References

1. Kaurav, R. P. S., Narula, S., Baber, R., & Tiwari, P. (2021). THEORETICAL EXTENSION OF THE NEW EDUCATION POLICY 2020 USING TWITTER MINING. *Journal of Content Community and Communication*, 13(7), 17. <https://doi.org/10.31620/jccc.06.21/03>
2. Maurya, N. K., & Sharma, S. (2023). Role of technology and digital learning in NEP 2020. *International Journal of Political Science and Governance*, 5(1), 407. <https://doi.org/10.33545/26646021.2023.v5.i1e.639>
3. Prajapat, S., Yadav, R. N., Raikwar, S., Soni, P., & Bhurre, S. (2024). Information Communication Technology (ICT) Tools for Online Learning Environments (OLE) Towards Quality Higher Education with NEP-2020. In *Lecture notes in networks and systems* (p. 111). Springer International Publishing. [https://doi.org/10.1007/978-3-031-74443-3\\_6](https://doi.org/10.1007/978-3-031-74443-3_6)
4. Sharma, M. (2025a). Digitalization and Transformation of the Higher Education System in India Through the New Education Policy 2020 for Enhanced Quality Education. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.5678431>
5. Sharma, M. (2025b). Digitalization and Transformation of the Higher Education System in India Through the New Education Policy 2020 for Enhanced Quality Education. *Indian Journal of Management and Language*, 5(2), 19. <https://doi.org/10.54105/ijml.b2098.05021025>
6. Singh, R. K., & Singh, A. (2024). Building Sustainable Digital Education in India: Transformation through Equity, Inclusion and Accessibility. *Soshum Jurnal Sosial Dan Humaniora*, 14(1), 54. <https://doi.org/10.31940/soshum.v14i1.54-62>
7. Swargiary, K. (2023). Assessing the Awareness of Students in India on the National Education Policy 2020. *Research Square (Research Square)*. <https://doi.org/10.21203/rs.3.rs-3464860/v1>
8. Yadav, M. S., & Yadav, M. K. (2023). Implicit Impact of English Language Pedagogical Enhancement Policies in Higher Education Under the Indian NEP 2020: Challenges, Curriculum, Approaches, Opportunities, and Implementations. *American Journal of Education and Technology*, 1(4), 1. <https://doi.org/10.54536/ajet.v1i4.1117>