International Journal of Engineering Applied Sciences and Technology, 2024
Vol. 9, Issue 02, ISSN No. 2455-2143, Pages 102-106
Published Online June 2024 in IJEAST (http://www.ijeast.com)

A COMPREHENSIVE STUDY OF ONLINE AND DIGITAL EDUCATION IN THE CONTEXT OF NATIONAL EDUCATION POLICY 2020

Mrs. Nilima S. Gite
Department of Information Technology
K. K. Wagh Polytechnic, Nashik, Maharashtra, India

Abstract: **It is widely accepted that any nation needs to have a clear, innovative, and modern education policy because education is an essential component of advancement in both society and the economy. Different nations have adopted different educational systems in consideration of their unique culture and traditions. The New Education Policy 2020 (NEP 2020), recently unveiled by the Indian government, aims to provide everyone with access to high-quality education while transforming our country sustainably into a just and dynamic knowledge society. Because of the recent rise in pandemics, we must be ready to provide other excellent educational options whenever traditional and in-person educational options are unavailable. In this context, the National Education Policy 2020 recognizes the significance of maximizing the benefits of technology while also noting its possible hazards and perils. Pilot studies should be properly designed and scaled to maximize the benefits of online/digital education while eliminating any drawbacks.**
This research paper looks at how NEP 2020 is affecting digital learning and education in India. The paper talks about how teaching needs to change for online learning to work well. It also talks about the important elements of NEP 2020 related to digital education, as well as its advantages and disadvantages. Furthermore, it looks at how educational technology can be used with the policy and gives suggestions on how to combine them effectively. The study says that rules should focus on important things like fixing problems with the internet and electricity, stopping bad behavior, and making sure the internet is safe. Using ICT in remote areas can pose hallenges due to limited internet access, insufficient technology infrastructure, and a lack of essential devices such as computers and phones. India is the best in the world at IT and also does well in other modern fields like using technology in education. The Digital India Campaign is usingtechnology to change education all over the country. Digitallearningwill be a major part of making the education system better and achieving good results.

Keywords: **NEP 2020, Higher Education, Digital Education, ICT**

I. INTRODUCTION

National Education Policy's proposal for an education system that is based on the Indian values will result in a transformation of education and help India become essentially nascent, fair-minded undivided citizens by providing access to quality information. education, all that makes India global information superpower."
The Policy posits that Digital India Campaign is helping to transform the entire nation into a digitally empowered society and knowledge economy. While education will play a critical role in this transformation, technology itself will play an important role in the improvement of educational processes and outcomes; thus, the relationship between technology and education at all levels is bidirectional.
A key component of the curriculum will be digital education, with an emphasis on fostering students' critical thinking, problem-solving, and digital literacy. Starting at the primary level, digital education will be gradually incorporated into the curriculum as part of the NEP 2020. Higher education can benefit from NEP, 2020's insightful and helpful recommendations on a range of topics, such as technology integration, engaging blended learning, pedagogy, and more. The advancement of digital pedagogy is a crucial component of digital education as outlined in NEP 2020. Instructors will receive training on how to use digital tools and technologies to give students dynamic, interestinglearning experiences. To achieve this, a major change in teaching strategies and an emphasis on enhancing digital teaching abilities will be needed**.**

II. BACKGROUND OF DIGITAL EDUCATION

The curriculum will focus on teaching students how to use technology, think critically, and solve problems. In NEP 2020, digital education will be added gradually to the curriculum starting at the elementary level.
In Higher Education, NEP, 2020 gives helpful advice on many things like integrating technology, using blended learning, and teaching. Another important part of using technology in education is learning how to use it. This is part of the NEP 2020. Teachers will be taught how to use digital tools and

technologies to create learning experiences for students that are engaging and interactive. To do this, we need to change how we teach and focus on learning how to teach using technology.

Objectives of Digital Education

- The goal of digital education in India is to make learning accessible for everyone. This is true no matter where you are or what your background is.
- The goal of digital education is to improve the quality of education. It uses technology to teach in a fun and engaging way.
- Digital education aims to help people who live far away from schools get an education.
- The goal of digital education is to make high-quality electronic content in local languages. This helps India's many different languages and makes learning easier.
- Digital education aims to make learning more flexible. It lets students use educational materials at any time and place.
- Digital education aims to teach students and teachers how to use digital technology.
- Digital education aims to personalize learning. It uses technology to adjust to how people learn and how quickly they learn.
- Digital education encourages students to be creative and innovative. It lets them explore many digital things.

In today's world, using online education is important because it can be customized and is becoming more popular. Online learning should not only give information to many people at any time, but also help them learn well. So, this new job created the idea of a smart learning environment.

The New Education Policy-2020 emphasizes that technology will undoubtedly impact education in a variety of ways, only some of which can currently be predicted. This is because of the rapid advancement of technology combined with the ingenuity of tech-savvy educators and entrepreneurs, including student entrepreneurs. The policy continues, stating that technology will be used and integrated to enhance various facets of education, provided that these interventions are thoroughly and openly assessed in pertinent contexts prior to being expanded. Technology will be used primarily to support teacher preparation and professional development, improve teaching-learning and evaluation processes, increase educational access, and streamline educational planning, management, and administration, including procedures pertaining to admissions, attendance, assessments, and other related areas.

With computer-based programs used to transfer knowledge, digital and online education is the way of the future for education. Using the internet, intranets, or extranets, this cutting-edge method of teaching offers career-focused courses fully or partially. The secret to starting a successful career journey may lie in embracing online learning. Digital education is an area that is fast developing and centers on using different digital formats for teaching and learning. Not only do traditional text-based materials still exist, but modern educational resources also incorporate multimedia, audio, and online assignment submission

III. NEP 2020 ONLINE & DIGITAL EDUCATION

Elimination of the Digital Divide: As per NEP 2020, efforts like the Digital India campaign and the accessibility of reasonably priced computing devices are necessary to eradicate the digital divide before the advantages of online and digital education can be fully utilized. Equality concerns must be sufficiently addressed when using technology for online and digital learning. We will make extensive use of the current mass media, including radio, television, and community radio, for telecasts and broadcasts, given that there is still a sizable portion of the population with extremely limited access to digital media. These instructional materials will be made accessible to students around-the-clock in a variety of languages in order to meet their diverse needs. The need for digital content to reach teachers and students in their medium of instruction will be highlighted, and a special emphasis on content in all Indian languages will be mandated. To ensure that every student has equal access to high-quality, hands-on, practical experiment-based learning opportunities, virtual labs will be created using already-existing e-learning platforms like DIKSHA, SWAYAM, and SWAYAMPRABHA. A suitable digital device, like tablets with digital content pre-loaded, will be developed and considered as a means of offering SEDG teachers and students adequate access. Pilot projects for organizations that support online learning, including NETF, CIET, NIOS, IGNOU, IITs, NITs, and others.

This pilot study’s finding will be made public and applied to ongoing improvement. Online learning environments and resources: Teachers will have access to a comprehensive, organized collection of helpful tools for tracking students' progress on already-existing e-learning environments, like SWAYAM and DIKSHA. The COVID-19 pandemic has demonstrated the true need for tools like two-way audio and video interfaces when hosting online classes. content creation, digital repository, and distribution There will be a clear public rating system for users to rate the efficacy and quality of the content, which will include the development of learning games and simulations, augmented reality, virtual reality, and coursework. Student-appropriate, multilingual apps that gamify Indian art and culture will be developed, along with clear operating instructions, for enjoyable, project-based learning. Students will have access to a dependable fallback method for distributing e-content. Teacher training and incentives: Teachers will receive in-depth instruction in learner-centered pedagogy and how to use online teaching platforms and tools to create high-quality online content. A focus will be placed on the teacher's role in encouraging

students to actively engage with the material and with one another. Online tests and assessments Fit organizations, like the National Assessment Center (PARAKH), a proposed national assessment center, educational institutions, etc.

The significance of in-person, face-to-face instruction is acknowledged, even as digital learning and education are promoted. Research will be conducted to test innovative approaches to assessment utilizing educational technologies with a focus on 21st century blended learning models. Consequently, various blended learning models that are effective will be identified and replicated appropriately for various subject areas. Digital infrastructure, educational digital content, and capacity building – To meet the demands of both higher education and K–12, the Ministry will establish a specialized unit to coordinate the development of digital infrastructure, educational digital content, and capacity building. A vibrant ecosystem must be encouraged to create solutions that not only address India's challenges of scale, diversity, and equity, but also adapt to the rapid changes in technology. Reiterating training expertise through innovative use of tools and technologies throughout teaching and learning is essential, as technology is evolving quickly and necessitates specialists to deliver high-quality e-learning. It gives students some control over time, pace, and location by combining technology with digital content and instruction.

Techniques for integrating digital technology into education:

- Interactive Digital Learning Resources: Learning is no longer restricted to a traditional classroom. Digital teaching and learning, or digital learning, refers to any educational activity that makes use of digital tools to impart knowledge and speed up learning. Digital tools or devices that support both teacher instruction and student learning are therefore considered digital teaching-learning resources. Digital Repositories, Discussion Forums, Blogs, e-Content, e-Learning, LMS, Mobile Apps, Podcasts, Simulations, Virtual Reality and Augmented Reality, Social Networking Services, Webinars, e-Conferences, Chatrooms, You-Tube and WhatsApp, are utilized in the teaching-learning process.
- Digital classrooms and Flipped classrooms: These are becoming more and more popular. Technology has completely changed the way we learn these days. Teachers in the classroom will use digital screens to project their knowledge and the collective strength of the class, allowing all students to demand consistent academic input and base content. Because it combines different tutorial designs, this digital era feature has improved student engagement. All students have access to the best education available, which is difficult to impart through traditional whiteboard and chalk teaching methods. This new knowledge is particularly engaging, personalized, and enjoyable. Students now perceive learning as enjoyable, simple, competent, and especially attention-grabbing thanks to the faculty's use of technology in the classroom. Creating an environment where every student feels compelled to check should be the goal of any educator.
- Massive open online courses, or MOOCs: These are creating a very important way for people to learn on their own. Researchers and business professionals can use it to check whenever and wherever it's convenient for them. Below this platform is a selection of courses that have been timely certified by institutions. New developments in the Indian Republic suggest that students need to continuously improve their skills, and learning-supported MOOCs may be beneficial to them in this regard. Due to their ability to give anyone, anywhere, anytime access to excellent instructional materials and digital content, MOOCs are an unquestionable trend in the pursuit of self-learning. A web course designed for unrestricted participation and open access via the internet is known as a massive open online course (MOOC). In comparison to the USA, the Republic of India is thought to be the world's biggest market for MOOCs. Massive open online courses, or MOOCs, are opening doors for a lot of Indians by bringing about an academic revolution, especially given the size of the Republic of India's population. Through the use of internet resources, online distance learning programs offer a great opportunity to receive high-quality education.
- Audio-Video-Based Learning: Due to its ability to blend education with enjoyment, this method of learning is becoming more and more popular with college students. It is highly interactive to use this teaching-learning medium. Using digital resources such as academic apps, podcasts, ebooks, and more, students are eager to learn new concepts. Learning through video has become more engaging, entertaining, and exploratory as a result of the digital promotion of this field, which has equipped the Indian education sector. With the incredible Apps, podcasts, videos, interactive code, e-books, and online interactive electronic boards, it offers learning with a tradition of learning during leisure time with creative thinking, fun, and diversion on cards. Children exhibit enthusiasm and initiative, eager to use their intelligence to manage the showcase. They are also curious about the lack of technological proficiency in academics and are willing to support them honourably and publicly.
- Game-based learning: In order to engage users, game-based learning involves adapting specific gaming concepts to real-world contexts. Game-based learning uses motivational psychology to help students get involved and interested. Students will be able to have fun while learning because we are creating activities for them to do. Conventional games may include rewards, points, feedback loops, and competition. As a means of encouraging students to learn, these ideas are becoming more and more common in libraries and higher education.

International Journal of Engineering Applied Sciences and Technology, 2024
Vol. 9, Issue 02, ISSN No. 2455-2143, Pages 102-106
Published Online June 2024 in IJEAST (http://www.ijeast.com)

IV. DIGITAL LEARNING'S CHALLENGES IN USING TECHNOLOGY IN HIGHER EDUCATION

- Lack of Motivation in Students: Online learning can be tough as it involves a large amount of reading and the absence of instant access to the teacher for questions. Students have a hard time staying interested and motivated without being able to interact with their teacher and classmates in a regular classroom. As we go through the education system, it's important to think about how hard it can be for students to learn online. We need to make sure that students are still able to learn well and stay interested in their online classes.
- Infrastructural Problems: Although online learning doesn't require the same physical infrastructure as traditional education, it still requires some level of support. You need a computer, good software, electricity all the time and fast internet.
- Technology Issues: The teachers and students have many technical problems on these platforms. Online learning often has technical issues that need fixing with support, which can interrupt the learning process.
- Continuous technological change: Regretfully, you shouldn't count on using the same tools indefinitely because technology is always evolving. Instead, you should have a plan for updating technology as well as a budget in place.
- Insufficient content quality: Creating an autonomous collection of excellent digital learning resources is difficult due to the abundance of digital content. In order to create a strong collection of content, your school's administrators and teachers should collaborate with the varsity librarian. Expensive: The cost of digital resources and technology is high. Hence, in order to secure funds, educators and educational institutions need to be ready to look for grants and community support. Concerns about security: As more people use the internet, more security problems arise. Your school has to make investments in security to tackle security issues. Furthermore, basic internet safety lessons were given to both teachers and students.

V. OPPORTUNITIES IN EDUCATION AND DIGITAL LEARNING

Instructors, students, and administrators can all benefit greatly from digital learning. Anytime and anywhere that is most convenient for everyone can be used for teaching and learning. Education is changing the digital mode of teaching and learning. A digital curriculum may be changed at colleges and universities.

Design high Quality learning materials: Create excellent digital learning materials that will benefit educators, learners, and administrators alike. For everyone else, digital learning mode is useful. These programs make it simple for teachers to understand various pedagogies and techniques.

Professional growth for educators: By giving easily understood content to student, digital learning promotes professional growth for educators.

Digital classroom: Each college and institution keeps up its own unique digital classroom. It is a challenging task for the Digital class to surpass the entire classroom. providing a variety of subject expertise.

Online Course: There weren't many universities and colleges offering online courses. Before COVID-19, there was nothing at all to do with online education. Planning and realizing that the minimal knowledge source for brands seeking to expand their revenue streams is online education. The online course primarily consists of academic activities.

ICT teaching: Using ICT for teaching and learning is a very easy way and efficient process. Many useful ICT resources are available for teachers.

VI. CONCLUSION

Education policies in a country's school, college, and university systems must be clear, well-thought-out, and comprehensive because it fosters both social and economic advancement. It is still necessary to implement a suitable education system given the current situation. Specifically, it is widely accepted that a country's effective education policy always results in high-quality education. To become individuals who are responsible for enhancing human values-based discipline and treating one another with respect so that society can develop and flourish, is the aim of a high-quality higher education. In addition to enabling everyone to contribute to the advancement of society, high-quality higher education also encourages people to discover, adopt, or promote new technologies. It is anticipated that the new education policy, which is centered on research, will advance the accomplishment of the above mentioned goals and position all stakeholders as innovators.

VII. REFERENCES

[1]. National Education Policy 2020, Ministry of Human Resource Development, Govt. of India. https://www.education. gov. in/sites/ upload_files /mhrd/files/ NEP_Final_ English_0. pdf.

[2]. SaxenaManoj and KanwarAmbika (2021), “National Education Policy-2020: Issues an Challenges in Implementation”, University News - A Weekly Journal of Higher Education,Association of Indian Universities, Vol.59, no-5, April 12-18. p.146.

[3]. Education World, NEP 2020: Implementation Challenges. Available on:https://www.educationworld.in/nep-2020-implementation-challenges/

[4]. MuralidharanKunnummal, Shanmugan, Kulandaivel, &Klochkov, Yury (2022), “The new education policy 2020, digitalization and quality of life in India: Some

reflections", Educ.Sci. 2022, 12, 75.https://doi.org/10.3390/educsci12020075

[5]. Das Manas (2023), "Digital Learning in the Context of NEP 2020: A Comprehensive Analysis", International Journal of Research Publication and Reviews, Vol 4, no 12, pp 1764-1768 December 2023

[6]. Sheeraz Ahmad Sheergugri and Malkeet Raj (2022), "National Education Policy 2020 and Online and Digital Education - A Brief Review", International Journal of Advanced Research in Science, Communication and Technology (IJARSCT) Volume 2, Issue 1, May 2022

[7]. Yadav, S. (2022), Challenges in Teacher Education in the context of NEP, Higher Education and teacher skills for NEP 2020, Journal of Emerging Technologies and Innovative Research (JETIR), 9(10), 764-770. Retrieved from-https://www.jetir.org/papers/JETIR2210102.pdf.

[8]. Dr. Sharma Nidhi , "Integration of Technology: A Key Factor of NEP 2020", Journal of Emerging Technologies and Innovative Research (JETIR), Vol. 9, Issue 9, September 2022.

[9]. Das Manas, "Digital Learning in the Context of NEP 2020: A Comprehensive Analysis", International Journal of Research Publication and Reviews, Vol 4, no 12, pp 1764-1768 December 2023