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## **Blended Learning: A Vision for the Future**

Dr. Fatma Gausiya  
Assistant Professor  
Rayat Bahra University, Mohali

### **Abstract**

The National Education Policy (NEP) 2020 in India underscores the transformative potential of technology in education, endorsing the adoption of Open and Distance Learning (ODL) and an Online Integrated Blended System of Education. This policy shift aims to make education more accessible, flexible, and personalized, aligning with the dynamic needs of diverse learners. The NEP 2020 envisions a comprehensive transformation in India's education system, with a special emphasis on online and blended learning. It recommends the universal adoption of blended learning across all educational levels, advocating for the establishment of a National Education Technology Mission to ensure access to necessary technology and infrastructure. This policy sets the stage for a paradigm shift in higher education, emphasizing the importance of connectivity and robust information and communication technology (ICT) infrastructure. The benefits of blended learning are multifaceted. Blended learning maximizes the effectiveness of educational delivery by addressing diverse learning styles through a combination of face-to-face interactions and online resources. Studies consistently show that students in blended learning courses outperform those in traditional face-to-face or fully online courses. Blended learning fosters greater student satisfaction, independence, flexibility, and global collaboration opportunities. The

IPSIT model, proposed by the University Grants Commission (UGC) for higher education, emphasizes the identification of resources, learner-centered activities, provision of resources on Learning Management Systems (LMS), scaffolding and support to learners, identification of learning gaps and feedback, and testing. This model outlines a comprehensive approach to implementing blended learning in higher education, aligning with the NEP 2020's vision. However, the implementation of the National Blended Learning Policy faces challenges, including logistical issues due to the vast scale and diversity of the education system, disparities in resources and infrastructure, attitudinal resistance to change, and deficiencies in ICT skills among educators and students. Overcoming these challenges requires targeted interventions, comprehensive training programs, and strategic investments.

*Keywords:* blended learning, IPSIT, NEP 2020

## **Introduction**

The National Education Policy (NEP) 2020 emphasizes the integration of technology in education, and it acknowledges the importance of blended learning. The NEP 2020 recognizes the role of technology in education and aims to leverage it for providing more accessible, flexible, and personalized learning experiences. The policy encourages the use of technology to enhance the quality of teaching and learning. Blended learning is seen as a way to combine the strengths of traditional classroom teaching with the advantages of online learning, promoting a more interactive and engaging educational experience, hence, the NEP 2020 encourages the

development of digital infrastructure, online content, and teacher training to facilitate the effective implementation of blended learning.

### **Blended Learning**

Blended learning refers to a mix of traditional face-to-face classroom instruction and online learning. According to Hannafin and Land (2004) blended learning involves a combination of online instruction, face-to-face instruction, and other forms of learning activities. It is an approach that combines traditional classroom instruction with online instruction and activities. Vaughan (2008) defined blended learning as a “thoughtful fusion of face-to-face and online learning experiences.” During the online and the “technology-mediated components of these learning experiences, students are not required to be physically together in one place but may be connected digitally through online communities” (Cleveland-Innes & Walton, 2018). “Blended learning, thus, is a blending of carefully chosen learning tactics from face-to-face and technology-mediated learning domains to achieve expected learning outcomes” Mukhopadhyay (2022). Blended learning can be defined as combining online and face-to-face instruction to create a more personalized learning environment, allowing students to receive instruction from both their teachers and from online resources.

### **Blended Learning and NEP 2020**

In India, the National Education Policy (NEP) 2020 has laid the groundwork for the utilization of blended learning models in schools and higher education institutions across the country. The National Education Policy 2020 (NEP 2020) is an overarching policy framework

for the future of education in India. It is the first comprehensive education policy of India since the National Policy on Education (NPE) of 1986. NEP 2020 envisions a comprehensive transformation in the education system in India, with special emphasis on online and blended learning. The policy recommends that all educational institutions, from primary to higher education, should use online and blended learning tools to deliver quality education efficiently. It also calls for the establishment of a National Education Technology Mission to ensure that all institutions have access to the necessary technology and infrastructure for online and blended learning.

### **Benefits of Blended Learning**

In the rapidly evolving landscape of education, Blended Learning has emerged as a transformative approach, seamlessly integrating the best of both face-to-face and online learning. The National Education Policy (NEP) 2020 underscores the importance of this methodology, recognizing its multifaceted benefits.

1. **Enhanced Effectiveness:** Blended learning maximizes the effectiveness of educational delivery. By combining face-to-face interactions with the flexibility of online resources, it addresses diverse learning styles. This approach leverages technology to create a dynamic and engaging learning environment, enhancing overall educational outcomes.

2. **Improved Student Performance:** Studies consistently show that students enrolled in blended learning courses outperform their counterparts in both traditional face-to-face and fully

online courses. The blend of interactive classroom sessions and self-paced online modules caters to varied learning preferences, fostering deeper understanding and retention.

3. **Elevated Student Satisfaction:** Blended learning courses garner higher student satisfaction compared to traditional lecture modes. The fusion of interactive classroom sessions and the convenience of online learning resonates with students, creating a more engaging and fulfilling educational experience.

4. **Greater Independence and Flexible Pace:** One of the key advantages of blended learning is the empowerment of students to progress at their own pace. The combination of in-person guidance and online resources facilitates individualized learning journeys, fostering greater independence and self-directed learning.

5. **Global Collaboration Opportunities:** Blended learning transcends geographical boundaries, opening avenues for peer and expert collaboration across countries and cultures. The NEP 2020 aligns with this global perspective, emphasizing the importance of preparing learners for the interconnected world by fostering collaboration on an international scale.

6. **Unmatched Flexibility:** Blended learning provides unparalleled flexibility, allowing students to access educational content anytime and anywhere. This flexibility is particularly beneficial for adult learners, working professionals, and those with diverse schedules, enabling them to pursue education without compromising other commitments.

7. **Increased Interaction and Engagement:** The integration of synchronous and asynchronous elements in blended learning environments enhances interaction among peers and with teachers. This diversified interaction promotes a richer learning experience, fostering discussions, collaborations, and personalized support.

8. **Development of Digital Skills:** Blended learning acts as a catalyst for developing essential digital skills. As technology continues to shape our world, the NEP 2020 recognizes the significance of equipping learners with the skills necessary for lifelong self-learning. Blended learning, by its nature, encourages digital literacy and adaptability.

9. **Fostering Virtual Global Citizens:** In an era of globalization, blended learning plays a pivotal role in shaping learners into virtual global citizens. By facilitating cross-cultural collaborations and exposing students to a variety of perspectives, this approach aligns with the NEP 2020's vision of creating a globally competitive education system.

### **IPSIT: Indian Framework for Blended Learning**

Blended learning has been implemented across the world successfully. Several models are so far proposed and researched for blended learning implementations like Face-to-Face Driver Model, Rotation Model, Flex Model, Online Lab School Model, Self-Blend Model, Online Driver Model, etc.

In India, UGC has proposed the IPSIT model for blended learning to be followed in higher education.

IPSIT stands for:

Identify Resources and Learner-centered Activities

Provide resources and announce activities on LMS

Scaffolding and Support to learners

Identification of learning gaps and feedback

Testing

1. Identify Resources and Learner-centered Activities

Blended learning involves combining online and face-to-face teaching-learning settings in a suitable manner. Thorough planning is essential to create a meaningful integration of these environments. It is crucial to ensure the availability of necessary infrastructure, including internet access, bandwidth, hardware, space, and other resources, to facilitate the seamless implementation of blended teaching and learning. Pre-planning is necessary to determine the activities to be carried out online and in physical classrooms or labs. Adequate learning resources should be provided to learners. Blended learning must emphasize active learning environments rather than relying solely on one-way teacher lectures. Teachers intending to incorporate blended learning should identify resources and plan activities for both online and on-campus settings.

## 2. Provide resources and announce activities on LMS

Executing such a meticulous plan necessitates a well-established digital setting. Consequently, a Learning Management System (LMS) becomes a crucial element in Blended Learning. It is imperative to equip the LMS with all essential eResources. Teachers can use the LMS to communicate diverse online activities, which can be complemented by additional Information and Communication Technology (ICT) tools.

## 3. Scaffolding and Support to learners

When a higher education teacher chooses to implement Blended Learning, their role evolves from being a 'teacher' to becoming a 'facilitator.' While learners access resources and participate in activities, ongoing support and guidance are essential. Traditional classroom settings will no longer be centered solely around the teacher; instead, discussions will focus on addressing questions, analyzing and applying sought knowledge, and generating creative outputs under the supervision and guidance of the teacher. It is crucial to establish a support mechanism for digital literacy for both students and facilitators. Adequate training should be provided to teachers and students to effectively utilize various online platforms and ICT tools employed in blended learning.

## 4. Identification of learning gaps and feedback

It is crucial for effective learning that there is awareness of each learner's progress along their individual learning path. Learners need to be informed about their accomplishments at

relevant stages prior to officially finishing the course. Quizzes, presentations, formative assessments, assignments, and projects serve to pinpoint any gaps in the learners' understanding. Providing corrective feedback on their work enables learners to successfully attain the desired learning outcomes.

#### 5. Testing: assessment and evaluation

Conducting summative assessments is essential to confirm the attainment of learning outcomes. Given the innovative approaches anticipated from higher education teachers, the nature of summative assessments is expected to undergo significant changes. Merely relying on test items focused on 'recall' level understanding will not meet the requirements of authentic assessment. Various strategies for assessment and evaluation, emphasizing the need to plan and implement tests that cover all levels of learning outcomes and skills has also been introduced like Open book examination, Spoken / Speaking examinations, On demand examinations, ePortfolio, Classroom/Online Quizzes, Creative Products such as digital stories, Cartoon strips, drama scripts, eNewsletter, eMagazine, Recorded interviews of stakeholders, Case studies, etc.

### **Blended Learning and Policy Initiatives**

The National Education Policy 2020 in India represents a significant shift in the country's higher education landscape, introducing a transformative vision for learning through the adoption of Open and Distance Learning (ODL) and an Online Integrated Blended System of Education. This move recognizes the potential of technology to revolutionize education, making it more flexible, inclusive, and adaptable to diverse learner needs. This demands to develop a policy for

blended learning with focus on universal adoption of blended learning across all courses and subjects at various educational levels. This departure from traditional teaching methods underscores a commitment to creating a dynamic and personalized learning environment, blending in-person instruction with digital resources to cater to the multifaceted needs of students.

To support the ambitious goals of the NEP2020 certain policy initiatives are needed, which create a dynamic and personalized learning environment, blending in-person instruction with digital resources to cater to the multifaceted needs of students. Educational Institutions need to adopt Blended Learning in all Courses and subjects at all levels and also students will have to learn to acquire, deepen and create knowledge. There will be a need for establishing a fiber-optic network, connecting educational institutions even in remote areas. This infrastructure development aims to overcome geographical constraints, providing equitable access to quality education. Additionally, there is a need for development of robust Information and Communication Technology (ICT) infrastructure, ensuring a smooth transition to blended learning.

The curriculum would also need to undergo significant realignment to adapt to the attributes of blended learning. This would involve reconstructing traditional course structures to incorporate both face-to-face and online components, fostering critical thinking and collaborative skills essential for a modern educational landscape. It will require adoption of blended programs, courses, and unit designs, emphasizing a modular approach to content delivery that caters to diverse learning styles. High-quality learning resources will also need to be developed available

in various formats such as textual, video, games, animations, simulations, mobile apps, and virtual labs online, free of cost. These learning resources would need periodic review and the creation of a National Open Educational Resource (OER) repository for continuous improvement and knowledge sharing.

The assessment system would also need modification to align with the principles of blended learning. This includes online on-demand tests to allow students to demonstrate their understanding in a digital environment. Formative assessment strategies integrated across all courses focus on gauging students' progress throughout the learning process, providing real-time feedback and accommodating diverse learning styles. All this would remain futile, unless there is teacher and students readiness for blended learning. Comprehensive training for teachers in blended learning methodologies, including a profound understanding of human learning and essential ICT skills would be required that aims to empower educators to deliver high-quality and engaging educational experiences. Customized blended learning models would provide flexibility for institutions and teachers to choose approaches that align with their unique contexts and student characteristics. Student readiness would need to be addressed through comprehensive orientation sessions to familiarize them with the processes and benefits of blended learning. Parental engagement would also play an important role to build a supportive community that understands and values the benefits of blended learning, fostering a holistic learning environment. Along with this, academic leaders also need to be oriented and trained in blended learning, playing a pivotal role in developing, implementing, and providing evidence through pilot programs or actionable initiatives. Financial provisions should ensure adequate

resources for infrastructure development, technological tools, educator training, and ongoing enhancement of learning resources, emphasizing the nation's dedication to fostering a technologically advanced and inclusive education system.

These changes would collectively represent a paradigm shift in education system, creating a cohesive and adaptive educational ecosystem that maximizes the benefits of blended learning. The commitment to technology, connectivity, curriculum realignment, assessment modification, and comprehensive readiness measures reflects a holistic approach to creating a modern and inclusive education system in line with the dynamic needs of the 21st-century learner.

### **Challenges**

The implementation of blended learning faces a spectrum of challenges. The sheer magnitude of the education system, characterized by its vast scale and diverse demographic, poses a logistical challenge. Wide disparities in resources, infrastructure, and socioeconomic conditions amplify the difficulties, leading to pronounced digital divides among students and institutions. Attitudinal shifts are necessary, as resistance to change may hinder the seamless integration of blended learning. Furthermore, the prevalence of ICT skills deficiency among educators and students presents a hurdle, compounded by poor access to digital devices and inadequate internet connectivity. These challenges underscore the imperative for targeted interventions, comprehensive training programs, and strategic investments to address the multifaceted barriers hindering the effective implementation of the Blended Learning Policy.

## Conclusion

Blended Learning emerges as a fitting solution to achieve the visionary goals outlined in the National Education Policy (NEP) 2020. The policy implicitly embraces the principles of Blended Learning, with its components scattered throughout the NEP2020 document. To materialize the transformative potential, there is a critical need to meticulously weave these elements into a cohesive framework, forming a comprehensive and purposeful policy for implementing blended learning. By doing so, India can stride confidently towards the development of a globally competitive education system, aligning with the dynamic needs of the 21st century and ensuring equitable access to quality education across diverse demographics.

## References

- Ali, A., Khan, R. M., & Alouraini, A. (2023). A comparative study on the impact of online and blended learning. *SAGE Open*, 13(1). <https://doi.org/10.1177/21582440231154417>
- Blended education and the NEP (National education policy). (2023, August 29). *NagaEd*. <https://www.nagaed.com/blend-ed-nep/>
- Blended mode of teaching and learning: Concept note*. (n.d.). UGC, New Delhi. [https://www.ugc.gov.in/pdfnews/6100340\\_Concept-Note-Blended-Mode-of-Teaching-and-Learning.pdf](https://www.ugc.gov.in/pdfnews/6100340_Concept-Note-Blended-Mode-of-Teaching-and-Learning.pdf)
- Cleveland-Innes, M., & Wilton, D. (n.d.). *Guide to Blended Learning*. Commonwealth of Learning. <https://openbooks.col.org/blendedlearning/chapter/chapter-1-blended-learning/>

- Elbyaly, M. Y., & Elfeky, A. I. (2023). The impact of blended learning in enhancing the skill performance of producing digital content among students of optimal investment. *Annals of Forest Research*, 66(1), 2031-2043. <https://www.e-afr.org/article/view-2023/pdf/2031.pdf>
- Han, X. (2023). Evaluating blended learning effectiveness: An empirical study from undergraduates' perspectives using structural equation modeling. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1059282>
- Jayanthi, R. (2019). A study about blended learning - Its importance and concept. *International Journal of Scientific Development and Research*, 4(4), 387-397. <https://www.ijedr.org/papers/IJEDR1904082.pdf>
- Karthick, M. (2023). *Blended Learning in India in contexts of NEP 2020*. In P. Sriraman & T. Sundararasan (Eds.), *Blended Learning in Teacher Education* (pp. 171-174). Kanchi College of Education, Karaipettai, Kanchipuram, Tamilnadu, India. <https://www.researchgate.net/publication/371279961>
- Khader, N. S. (2016). The effectiveness of blended learning in improving students' achievement in third grade's science in Bani Kenana. *Journal of Education and Practice*, 7(35), 109-116. <https://files.eric.ed.gov/fulltext/EJ1126508.pdf>
- Khan, A. I., Qayyum, N., Shaik, M. S., Ali, A. M., & Bebi, C. (2012). Study of blended learning process in education context. *International Journal of Modern Education and Computer Science*, 4(9), 23-29. <https://doi.org/10.5815/ijmecs.2012.09.03>
- Kintu, M. J., Zhu, C., & Kagambe, E. (2017). Blended learning effectiveness: The relationship between student characteristics, design features and outcomes. *International Journal of*

*Educational Technology in Higher Education*, 14(7), 1-20.

<https://doi.org/10.1186/s41239-017-0043-4>

Mukherjee, D. (2021). Blended learning is the way forward from the perspective of management education. *Academia Letters*. <https://doi.org/10.20935/al2829>

Mukhopadhyay, M. (2023, September 11). *Blended Learning: Policy Recommendations, Concept, Need and Scope* [Video]. Central Institute of Educational Technology | A Constituent unit of NCERT. <https://ciet.nic.in/bl.php>

*National Education Policy 2020*. (2020). Ministry of Human Resource Development, Government of India. [https://www.education.gov.in/sites/upload\\_files/mhrd/files/NEP\\_Final\\_English\\_0.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf)

Nikolopoulou, K., & Zacharis, G. (2023). Blended learning in a higher education context: Exploring University students' learning behavior. *Education Sciences*, 13(5), 514. <https://doi.org/10.3390/educsci13050514>

Nong, W., Ye, J. H., Chen, P., & Lee, Y. S. (2023). A study on the blended learning effects on students majoring in preschool education in the post-pandemic era: An example of a research-method course in a Chinese university. *Frontiers in Psychology*, 13, 1-13. <file:///C:/Users/Dell/Downloads/fpsyg-13-962707.pdf>

Sarkar, D. (2023). Blended learning: A necessity for Indian education system. *International Journal For Multidisciplinary Research*, 5(4), 1-11. <https://doi.org/10.36948/ijfmr.2023.v05i04.4574>

- Su, F., Zou, D., Wang, L., & Kohnke, L. (2023). Student engagement and teaching presence in blended learning and emergency remote teaching. *Journal of Computers in Education*, 2, 1–26. <https://doi.org/10.1007/s40692-023-00263-1>
- Tonbuloğlu, B., & Tonbuloğlu, İ. (2023). Trends and patterns in blended learning research (1965–2022). *Education and Information Technologies*, 28(11), 13987-14018. <https://doi.org/10.1007/s10639-023-11754-0>
- Tong, D. H., Uyen, B. P., & Ngan, L. K. (2022). The effectiveness of blended learning on students' academic achievement, self-study skills and learning attitudes: A quasi-experiment study in teaching the conventions for coordinates in the plane. *Heliyon*, 8(12), e12657. <https://doi.org/10.1016/j.heliyon.2022.e12657>
- Varughese, A. R., & Luke, A. A. (2023). Blended Learning in Indian Higher Education. *Economic and Political Weekly*, 58(13). <https://www.epw.in/journal/2023/13/commentary/blended-learning-indian-higher-education.html>
- Wang, C., Dev, R. D., Soh, K. G., Nasiruddin, N. J., Yuan, Y., & Ji, X. (2022). Effects of blended learning in physical education among University students: A systematic review. *Education Sciences*, 12(8), 530. <https://doi.org/10.3390/educsci12080530>
- Zhonggen, Y. (2015). Blended learning over two decades. *International Journal of Information and Communication Technology Education*, 11(3), 1-19. <https://doi.org/10.4018/ijicte.2015070101>