

RECLAIMING INDIGENOUS PEDAGOGY: INTEGRATING INDIAN KNOWLEDGE SYSTEMS (IKS) INTO CURRICULUM FRAMEWORKS UNDER NEP 2020

Dr. D. Padma

Associate Professor, Department of B.Com (PA)
Nallamuthu Gounder Mahalingam College (Autonomous), Pollachi
padvijaya@gmail.com

Dr. V. Pattammal

Associate Professor and Head – Department of BBA
Sengamala Thayaar Educational Trust Women's College, Mannargudi
pvijey13@gmail.com

<https://doi.org/10.34293/blp.9789395659895.ch013>

Abstract

The National Education Policy (NEP) 2020 offers a bold vision for Indian education by promoting inclusive, holistic, and culturally rooted learning. At the heart of this reform is the integration of Indian Knowledge Systems (IKS) into curricular structures. IKS covers a wide range of disciplines—astronomy, mathematics, medicine, ecology, governance, philosophy, and the arts—that have shaped Indian civilization for centuries. Once sidelined during colonial times, these knowledge systems are regaining importance in today's global pursuit of sustainability, wellness, and indigenous innovation. This article examines the role of NEP 2020 in advancing IKS within curriculum frameworks, both nationally and at state levels. It reviews examples of subject-specific incorporation, highlights state initiatives, and analyzes statistical evidence to understand the current impact of IKS. It also addresses the challenges that hinder full-scale adoption, such as teacher training, availability of authentic content, and assessment models, while suggesting practical measures for improvement. By placing IKS at the center of educational reform, India has the chance to create a system that is globally competitive yet firmly anchored in its civilizational heritage.

Keywords: Indian Knowledge Systems (IKS), NEP 2020, Curriculum Reform, Indigenous Pedagogy, Holistic Learning, Teacher Preparedness, Experiential Education, Decolonization of Knowledge.

Introduction

Indian culture of learning and its tradition of education is long-established, it focused on: holism, interdisciplinarity, and learning by practice. Ancient universities like Takshashila and Nalanda practiced the same and they became known as global centers of learning. The colonial education system undermined such traditions, however, substituting them with models that taught rote memorization and were geared toward efficiencies per industrial standards.

Eventually, and in practice, the shortcomings of such standardized solutions were revealed, namely their loss of cultural and local specificity. The National Education Policy (NEP) 2020 marks an important step of decolonization of the educational system as it is specifically recommended that IKS be revived in curricula, thus making the task partially decolonial.

IK is not only the tradition of the past--but an activity in the present. IKS has contributed to the present practices of sustainable farming technique and native water management, Ayurveda, mathematical documentations of Aryabhata and Bhaskaracharya, oral epic, and spiritual ideologies, which still influence societal and ecological life in India. Its ideals- learning in context, living in harmony with the environment, and intergenerational learning have also been found to resonate with the United Nations Sustainable Development Goals (SDGs).

The current paper examines the roles that NEP 2020 plays in IKS integration, national and state-level initiatives, and prospects and challenges awaiting.

Objectives of the Study

The study seeks to:

1. To Analyze how curriculum frameworks incorporate IKS at both national and state levels.
2. To Review statistical data reflecting the adoption of IKS in education.
3. To Identify challenges in implementation and propose workable strategies.

Methodology

A qualitative descriptive approach was taken that would incorporate policy review, case study analysis, interpretation of statistical data. The data is obtained through reports of the UGC, NCERT, DIKSHA, and AICTE.

Review of Literature

- Mukhopadhyay (2019) emphasized its role in decolonizing Indian education and argued that IKS embodies adaptive, sustainable traditions.
- Chatterjee (2021) stressed the importance of blending indigenous knowledge with modern science through interdisciplinary teaching.
- Ghosh (2020) pointed out the persistent issue of inadequate teacher training for IKS pedagogy.
- UNESCO (2022) affirmed the value of indigenous knowledge systems globally in advancing sustainability and biodiversity.

Discussion on the Objectives

Objective 1: To Analyze How Curriculum Frameworks Incorporate IKS at National and State Levels

The NEP 2020 offers a clear route of incorporating Indian Knowledge Systems (IKS) within the process of formal learning. The National Curriculum Framework for School Education (2023) presents the elements of IKS at every stage: folk traditions and crafts in the foundational part, ecological studies and oral narratives at middle stage, philosophy, logic and cultural aesthetics at secondary level. In subject matter, integration can be seen in the area of science (Ayurveda, water system), mathematics (contributions of Aryabhata and Sulba Sutras), social sciences (panchayati Raj and ecological history), and arts (classical music and architecture).

At the state level, the local initiatives reinforce this scaffolding. Karnataka has adopted a combination of temple architecture and medicinal plants, Maharashtra has merged in some tribal agro ecological activities and Kerala has implemented Ayurveda based health modules. Collectively, they exemplify how national policy can offer an overall ideal, but drive local development through the adaptation of content at the state-level to both address local cultural and ecological needs.

Objective 2: To Review Statistical Data Reflecting the Adoption of IKS in Education

Statistical data shows that there is a breakthrough in the mainstreaming of IKS. The fact is that teacher training programs, according to the information provided by UGC and AICTE, seek to produce 1.5 million educators, who will be ready to work in the classroom by 2025. There is also the aspect of higher education adoption, where IKS related courses have been established in over 30 percent of the universities (NAAC data). Digitally, the DIKSHA platform has had 5.8 billion sessions and where there are nearly 292,000 IKS-specific content items, which indicates its vast access. As well, there is also confirmation of this movement in student responses; according to a survey conducted in Rajasthan (n=150), 90 percent of student respondents ranked IKS inclusion as good or very good. AICTE also has an IKS Division which was created in 2020 to institutionalise the continuous research and resource development efforts. These statistics all point to rising institutional patronage, cyberspace growth, and student tolerance to IKS.

Objective 3: To Identify Challenges and Propose Scalable Solutions

Despite policy emphasis, several barriers hinder effective IKS integration. The first threat is insufficient number of trained teachers who can impart IKS-based pedagogy. Secondly, the absence of evidence-based textbooks that are structured limits uniformity in the classroom practice. The evaluation systems are still on the basis of rote evaluation, and thus it is hard to employ the interdisciplinary and experiential aspects of the IKS. Misperceptions about the scientific validity of aboriginal systems are also factors that lead to resistance among the educators and learners.

In a bid to fill these gaps, there should be systematic capacity building in terms of teacher training. Contextual accuracy can be guaranteed by developing localized curriculum content that is authentic. Incentives in research should promote the empirical validation of the IKS practices. Learning can be experience-based with the involvement of the community such as through artisans, healers, and practitioners. Lastly, reform assessment needs to be more application, problem-solving and relevant to the real world. These can be scaled solutions that can fill the policy vision gap to the ground level implementation.

Policy Context: NEP 2020 and IKS

NEP 2020 proposes a structured approach for IKS integration through:

- Promotion of multidisciplinary learning across subjects.
- Revival of Sanskrit and classical languages.
- Use of mother tongue and local knowledge in early instruction.
- Establishment of research and innovation centers for IKS.

These directives shift curricula away from Eurocentric models and towards contextualized, experiential learning.

Curriculum Frameworks Supporting IKS

National Curriculum Framework for School Education (NCF-SE, 2023)

- Foundational Stage (ages 3–8): Folk stories, traditional games, local crafts.
- Preparatory & Middle Stages: Oral narratives, ecological studies, regional sciences.
- Secondary Stage: Indian philosophy, cultural aesthetics, classical texts.

Subject-Wise Examples

Subject	IKS Integration Examples
Science	Vedic botany, Ayurveda, traditional water systems
Mathematics	Contributions of Aryabhata, Bhaskaracharya, Sulba Sutras
Languages	Sanskrit and Prakrit as carriers of philosophy
Social Science	Panchayati systems, ecological history (Hampi, Dholavira)
Arts & Culture	Classical music, sculpture, temple architecture

State-Level Initiatives

- Karnataka: Inclusion of medicinal plant knowledge and temple architecture.
- Maharashtra: Environmental studies enriched with tribal agro-ecological practices.
- Kerala: Ayurveda-based health education in selected schools.

These cases highlight how states adapt IKS content while following national directives.

Evidence of IKS Integration

Metric	Data (as of 2024)
Teachers to be trained in IKS (by 2025)	1.5 million (UGC & AICTE)
Universities with IKS programs	Over 30% (NAAC)
DIKSHA usage	5.8 billion sessions; 292,000 content items
Student approval (Rajasthan survey, n=150)	90% positive
Year of IKS Division establishment	2020 (MoE & AICTE)

Challenges in Implementation

Despite supportive policies, obstacles remain:

- Shortage of teachers trained in IKS pedagogy.
- Limited availability of authentic, evidence-based content.
- Assessment systems not designed for interdisciplinary learning.
- Misunderstandings regarding the scientific credibility of IKS.

Recommendations

1. Teacher Training: Intensive, continuous programs in IKS pedagogy.
2. Curriculum Development: Creation of localized, interdisciplinary content.
3. Research Incentives: Funding for empirical studies on IKS outcomes.
4. Community Engagement: Involvement of practitioners, artisans, and knowledge holders.
5. Assessment Reforms: Adoption of experiential and application-based evaluations.

Conclusion

Incorporation of IKS in Indian education is not only policy but a civilizational re-alignment. NEP 2020 celebrates intellectual and cultural input of the Indian traditions and equips the learners with modern times challenges.

IKS can not be regarded as some artifact of the past. Its theories are still most applicable, in mathematics and ecology, as well as in literature and performing arts. IKS enhances the

contemporary education by increasing the level of ethical awareness, environmental literacy, and cultural integrity. There is statistical evidence, state effort and institutional advocacy of increasing momentum, but obstacles like teacher readiness and antique evaluation techniques need to be strategically eliminated.

Finally, the notion of IKS does not mean to go against modern science but to establish a pluralistic, balanced body of knowledge. Such a strategy helps to reinstate dignity to indigenous wisdom and conforms to global competencies. By so doing, India will fulfill the vision of the Bharatiya Jnanaparamparan -a tradition that is inclusive, sustainable and timeless.

References

1. Ministry of Education. *National Education Policy 2020*. Government of India, 2020. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pd.
2. NCERT. *National Curriculum Framework for School Education (NCF-SE)*. National Council of Educational Research and Training, 2023. <https://ncert.nic.in>.
3. AICTE – IKS Division. *Indian Knowledge Systems Portal*. AICTE, 2023. <https://iksindia.org>.
4. Ranganathan, S. "IKS in Contemporary Education: Opportunities and Challenges." *Journal of Indian Education*, NCERT, 2022.
5. Mukhopadhyay, S. "Decolonizing Education in India: Indigenous Knowledge Systems and the NEP Vision." *Indian Journal of Educational Research*, vol. 8, no. 2, 2019, pp. 45–58.
6. Chatterjee, A. "Bridging Traditions: Indian Knowledge Systems and Modern Science." *Economic and Political Weekly*, vol. 56, no. 7, 2021, pp. 34–39.
7. Sharma, V. "Revival of Indian Knowledge Systems in Modern Pedagogy." *International Journal of Educational Research and Innovation*, vol. 18, no. 3, 2022, pp. 22–31.
8. Singh, P., and P. Narayan. "Contextualizing Curriculum through Local Knowledge Systems: A Study from Rural Maharashtra." *Contemporary Education Dialogue*, vol. 18, no. 1, 2021, pp. 89–108.
9. Ghosh, S. "Teacher Preparedness for IKS Integration in Classrooms: Gaps and Opportunities." *Journal of Indian Education*, vol. 46, no. 2, 2020, pp. 78–91.
10. University Grants Commission (UGC). *Guidelines for Incorporating IKS in Higher Education Curricula*. UGC, New Delhi, 2021.
11. UNESCO. *Local and Indigenous Knowledge Systems in Education*. UNESCO, 2022. <https://www.unesco.org>.
12. DIKSHA. *Digital Infrastructure for Knowledge Sharing – Usage Report*. Ministry of Education, 2023. <https://diksha.gov.in>.
13. AICTE. *National Strategy for IKS Integration in Technical Institutions*. AICTE Working Paper Series, 2022.
14. Apte, D. "Indian Philosophical Thought and Its Implications for Education." *Indian Journal of Philosophy and Education*, vol. 39, no. 2, 2018, pp. 11–27.
15. Mishra, A. "Reimagining Pedagogy through Indigenous Knowledge Systems." *Indian Educational Review*, vol. 59, no. 1, 2021, pp. 101–116.