

# Relevance of Indian Knowledge System in Modern Higher Education

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## Abstract

The Indian Knowledge System (IKS) represents one of the world's oldest and most comprehensive intellectual traditions & customs. It encompasses diverse disciplines such as Chemistry, Physics, Philosophy, Mathematics, Astronomy, Medicine, Agriculture, Environmental science, Linguistics, Arts, Ethics, and Spirituality. In recent years, particularly after the implementation of the National Education Policy (NEP) 2020, IKS has gained renewed attention as an essential component of higher education in India. The policy recognizes the need to integrate indigenous knowledge with modern scientific and technological advancements to promote holistic, multidisciplinary, and value-based education for the students. This paper explores the relevance of IKS in contemporary higher education by discussing its historical significance, educational values, scientific contributions, implementation strategies, challenges, and future prospects. The study concludes that integrating IKS into higher education can strengthen innovation, cultural identity, ethical values, sustainability, and global competitiveness and inculcate interest in seeing the things according to sciences and IKS while preserving India's rich intellectual heritage.

*Keywords:* Indian Knowledge System, Higher Education, NEP 2020, Holistic Education, Indigenous Knowledge, Multidisciplinary Learning

## 1. Introduction

India has been recognized as one of the oldest centers of learning, with renowned institutions such as Takshashila, Nalanda, Vikramashila and Vallabhi attracting scholars from across the world. Ancient Indian education emphasized holistic development by integrating intellectual, moral, physical and spiritual dimensions of learning and teaching.

The Indian Knowledge System (IKS) comprises knowledge accumulated over thousands of years through observation, experimentation, reasoning, and practical application. It includes contributions in mathematics, astronomy, metallurgy, medicine (Ayurveda), yoga, architecture, governance, environmental conservation, linguistics, and philosophy.

Globalization and modernization have transformed higher education, creating demand for innovation, sustainability, ethical leadership, and interdisciplinary learning. The National Education Policy (NEP) 2020 recognizes that integrating Indian Knowledge Systems into higher education can produce graduates who are scientifically competent, culturally rooted, ethically responsible, and globally competitive.

## 2. Indian Knowledge System and Higher Education

IKS is not merely the study of ancient scriptures but a systematic body of knowledge developed through empirical observations, logical reasoning, experimentation, and practical experiences. It includes both classical literature and community based indigenous practices.

Major domains include:

- Mathematics (Baudhayana, Aryabhatta, Brahmagupta, Bhaskara)
- Astronomy and cosmology
- Ayurveda and traditional healthcare
- Yoga and mental wellness
- Environmental conservation
- Agriculture and water management
- Metallurgy and material science
- Architecture (Vastu Shastra)
- Sanskrit linguistics and grammar
- Ethics, governance, and philosophy

Modern higher education increasingly values multidisciplinary learning, innovation, critical thinking, and sustainable development. These objectives align closely with the principles of IKS, making it highly relevant in the twenty first century.

## 3. Importance of IKS in Modern Higher Education

### 3.1 Holistic Development

Unlike conventional education that often emphasizes cognitive achievement alone, IKS promotes balanced development of intellectual, emotional, ethical, physical, and spiritual dimensions. Practices such as yoga and meditation improve concentration, emotional intelligence, and mental well-being among students.

### 3.2 Multidisciplinary Learning

IKS naturally integrates science, technology, arts, philosophy, medicine, and environmental studies. This multidisciplinary approach corresponds with the objectives of NEP 2020, which encourages flexible and interdisciplinary education.

### **3.3 Promotion of Ethical Values**

Ancient Indian educational traditions emphasized honesty, compassion, discipline, social responsibility, and respect for nature. These values remain essential for producing responsible professionals and ethical leaders.

### **3.4 Scientific Contributions**

Several scientific discoveries originated in ancient India, including:

- Decimal number system
- Concept of zero
- Algebra and trigonometry
- Advanced metallurgy
- Surgical techniques in Ayurveda
- Astronomical calculations
- Water conservation systems

Studying these contributions enhances students' appreciation of India's scientific heritage while encouraging further innovation.

### **3.5 Sustainable Development**

Traditional Indian practices emphasize harmony between humans and nature. Indigenous methods of agriculture, biodiversity conservation, water harvesting, and resource management provide valuable insights for addressing present day environmental challenges and achieving sustainable development goals.

## **4. Role of NEP 2020**

The National Education Policy 2020 recognizes Indian Knowledge Systems as an important component of educational reforms. The policy recommends: -

- Integration of IKS into undergraduate and postgraduate curricula.
- Promotion of Indian languages.
- Interdisciplinary and experiential learning.
- Research on indigenous knowledge.

- Faculty development programmes.
- Establishment of IKS Centres in higher educational institutions.
- Preservation and digitization of ancient manuscripts.
- Collaboration between traditional scholars and modern scientists.

Universities across India have begun introducing IKS courses, research centres, and credit-based programs aligned with these recommendations.

## 5. Challenges in Implementation

Despite its growing acceptance, several challenges remain:

- Limited availability of trained faculty.
- Lack of standardized curriculum.
- Inadequate interdisciplinary research.
- Misconception that IKS lacks scientific rigor.
- Language barriers due to Sanskrit and regional texts.
- Limited funding for translation and digitization.
- Need for evidence-based validation of traditional knowledge.

Addressing these challenges requires collaborative efforts among universities, research institutions, policymakers, and industry.

## 6. Future Prospects

The future of IKS in higher education appears promising. Emerging areas include:

- Artificial Intelligence and Sanskrit computational linguistics.
- Ayurveda based biomedical research.
- Traditional ecological knowledge for climate resilience.
- Indigenous agricultural technologies.
- Yoga based mental health interventions.
- Traditional architecture for sustainable infrastructure.
- Innovation through integration of traditional knowledge with modern science.

Interdisciplinary research can generate globally relevant solutions while preserving India's intellectual heritage.

## 7. Conclusion

The Indian Knowledge System represents an invaluable intellectual and cultural resource that remains highly relevant in contemporary higher education. Rather than replacing modern science, IKS complements it by providing holistic, ethical, sustainable, and multidisciplinary perspectives. Its integration into higher education can promote innovation, critical thinking, cultural confidence, and responsible citizenship. Successful implementation requires evidence-based research, curriculum development, faculty training, and collaboration across disciplines. By combining ancient wisdom with modern scientific approaches, Indian universities can contribute significantly to sustainable development, global knowledge creation, and the realization of the vision of NEP 2020.

## References

1. Government of India. (2020). *National Education Policy 2020*. Ministry of Education.
2. University Grants Commission (UGC). (2023). *Guidelines for Training/Orientation of Faculty on Indian Knowledge Systems*.
3. Das, D., & Karan, K. (2025). *Integration of Indian Knowledge System in Higher Education in the Light of NEP 2020 and Future Pathways. Towards Excellence*, 17(4).
4. Begum, R., & Sankar, C. S. (2025). *Indian Knowledge System (IKS): Relevance and Strategies for Implementation in Higher Education*.
5. Bhandarkar, T. D. (2025). *Integrating Indian Knowledge Systems into the Current Education Framework: Opportunities and Challenges*.
6. Sharma, M., Awasthi, S., & Soni, Y. (2024). *Indian Knowledge System: Relevance and Practices under National Education Policy 2020*.
7. Chauhan, K., Kumari, M., & Jaiswal, V. (2026). *Integration of Indian Knowledge System in Higher Education under NEP 2020: Challenges, Strategies and Benefits*.