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Decolonizing Education and Reclaiming India's Intellectual Legacy: Integrating Indian Knowledge System in NEP 2020

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Abstract

The National Education Policy (NEP) 2020 advocates the integration of the Indian Knowledge System (IKS) into the mainstream curricula signifying an important transformation in India's education system. India for ages is known for its vast repository of wisdom in fields such as ayurveda, mathematics, astronomy, philosophy and traditional ecological practices. The policy recognizes this profound historical significance of IKS and earnestly endeavours to make available the golden treasure trove of precious knowledge to the students. Inclusion of IKS aims to bridge the gap between India's rich intellectual heritage and modern education. It also aims to foster a sense of cultural identity, holistic learning and sustainable development. This paper explores the historical contributions of IKS, the challenges in its integration along with the strategies proposed by NEP 2020 to address these barriers. The study underscores the potential of IKS to enrich contemporary education through an analysis of key domains such as Vedic mathematics, traditional healthcare system, the role of temples and women in safeguarding the indigenous environmental practices. The quintessential aim of NEP 2020 is to revitalize these dormant knowledge systems and envision an education framework to preserve India's historical, cultural and intellectual legacy.

Keywords: e*Cultural Identity, Decolonizing Education, Holistic Education, Indian Knowledge*

Introduction

Dr. A. P. J. Abdul Kalam aptly states:

Ancient India was a knowledge society that contributed immensely to the world in the fields of mathematics, astronomy, medicine, and philosophy. The concept of zero, the decimal system, and the value of pi were all gifts from India to the world. The Vedas and Upanishads are not just religious texts but also repositories of scientific thought and philosophical inquiry. India's ancient universities, such as Nalanda and Takshashila, were centres of learning that attracted scholars from across the globe. (67)

The Indian Knowledge System (IKS) is a reflective and inclusive source of traditional wisdom encompassing various fields such as philosophy, medicine, mathematics, astronomy, arts and environmental science. IKS mirrors India's contributions to multiple domains of global knowledge systems and is deeply rooted in millennia of intellectual and cultural heritage spawning from the concept of zero in mathematics to the holistic principles of ayurveda and yoga. The colonial education

system, however, systematically marginalized IKS, replacing indigenous learning system with western-centric paradigms deriding and demeaning traditional knowledge. It also paved the way for a cultural and intellectual disconnect that left generations of Indians alienated from their heritage.

The National Education Policy (NEP) 2020 is a crucial step to mend this imbalance by advocating for the integration of IKS into contemporary education. This paper is an earnest endeavour to explore the historical and contemporary significance of IKS along with the pertinent challenges like lack of proper documentation, institutional resistance and the need for curriculum redesign for its seamless incorporation. The policy eventually aims to create a holistic education system that honours India's intellectual legacy and equips the students to address the challenges of the 21st century. It is to be done by emphasizing the role of IKS in fostering cultural pride, interdisciplinary learning and sustainable development. The systematic and logical integration of NEP 2020 and IKS envisages an educational framework structure that bridges the past and the future to ensure that traditional knowledge systems are preserved, revitalized and made relevant in a competitive globalized world.

1. Historical Context of Indian Knowledge System

The Indian Knowledge System (IKS) with its broad and varied array of subjects profoundly influenced the Indian subcontinent. Its growth and development witnessed a spectacular event which became the fundamental cornerstone of Indian civilization. Its contributions traversing a wide assortment of disciplines undoubtedly shaped and immensely influenced global knowledge systems. One of the most prominent domains of IKS is ayurvedic medicine, which represents one of the world's oldest holistic healthcare systems. Ancient texts like the and laid the foundation for medical science prudently fine-detailing principles of diagnosis, treatment, and surgery. These texts emphasize the interconnectedness of the body, mind, and spirit, advocating for preventive care and natural remedies. The surgical techniques described in the, including procedures like rhinoplasty, demonstrate the advanced state of medical knowledge in ancient India. Even today, ayurveda continues to offer valuable insights into holistic well-being and bridges the gap between traditional and modern medicine.

In the realm of mathematics and astronomy, Indian scholars made ground breaking contributions that had a lasting impact on global knowledge. Eminent scholars Aryabhata and Brahmagupta pioneered concepts in algebra, trigonometry and the decimal system. Aryabhata's work provides foundational insights into planetary motion and the concept of zero. The invention of zero is credited to Brahmagupta who pioneered its use in arithmetic operations, in particular, and thereby revolutionized mathematics by laying the distinct foundation for modern computational systems., the then revolutionary Indian astronomical text, combines mathematical precision with observational science, enabling accurate predictions of celestial events. These contributions not only augment scientific understanding but also reflect the unfathomable association between science and spirituality in Indian thought. As Ananya Sharma states:

> India's ancient knowledge systems are not relics of the past but living traditions that hold the keys to solving the challenges of the present and the future. From the mathematical brilliance of zero to the ecological wisdom of sustainable farming, India's intellectual heritage is a testament to the timeless pursuit of knowledge, harmony, and truth (Sharma, 2022).

The Vedas and Upanishads affirm the philosophical and ethical traditions of India and provide erudite frameworks for understanding life, consciousness and morality. The Vedic texts explore metaphysical aspect regarding the nature of reality while the Upanishads delve into the concepts of (universal consciousness) and (individual self), offering insights into the unity of existence. Ethical principles such as (duty) and (action) provide practical and sacred guidelines for righteous living and social harmony. These philosophical traditions have not only shaped Indian culture and life but have also arguably deeply influenced global thinkers, contributing to the fields of logic, ethics, and consciousness studies.

David Frawley states:

> Indian knowledge systems are not just for India; they are for the entire world. The Vedas, Upanishads, Yoga, and Ayurveda are universal in their appeal and application. They offer timeless wisdom on how-to live-in harmony with oneself, with others, and with nature. In an age of ecological crisis and spiritual confusion, India's ancient knowledge systems provide a roadmap for sustainable living and inner peace (Frawley, 1998).

The traditional Indian knowledge system, in the domain of environmental science, emphasize sustainable practices nurturing human activity to lead a harmonious life with nature. Indigenous agricultural techniques, such as crop rotation, organic farming, and the use of natural fertilizers, ensures soil fertility and biodiversity. Water conservation methods, including the construction of stepwells and rainwater harvesting systems, corroborate progressive understanding of hydrology and resource management. Sacred groves, protected as part of religious practices, served as early models of biodiversity conservation. These practices reflect a deep ecological wisdom that is indeed relevant in the context of modern environmental challenges, offering sustainable solutions rooted in traditional knowledge. Vandana Shiva aptly confirms:

> India's traditional knowledge systems, especially in agriculture, are based on the principles of sustainability, diversity, and respect for nature. The Green Revolution, with its focus on monocultures and chemical inputs, disrupted these systems, but the wisdom of our ancestors still holds the key to solving the ecological crises we face today. Traditional practices like organic farming, seed saving, and water harvesting are not just alternatives; they are the foundation of a sustainable future. (Shiva, 2008).

2. Challenges in Integrating IKS

The integration of the IKS into modern education is an arduous process as it faces challenges such as lack of documentation and academic biases. Much of the knowledge embedded in IKS, including herbal medicine, sustainable agriculture, and folk arts, has been orally transmitted. It is a challenge, as it leaves wide-gaps in written records and complicates the academic and administrative procedures to its formal inclusion in curricula. Moreover, western-centric academic patterns, shaped by colonial legacies, often relegate IKS as unscientific, particularly in field like medicine, where ayurveda remains marginalized despite its holistic efficacy. It becomes a herculean task to overcome these barriers paving the way for a paradigm shift that views traditional and modern knowledge as complementary. Painstaking and sustainable endeavours are to be candidly initiated to systematically document, validate and integrate IKS into contemporary education, to ensure its preservation and relevance in a globalized world.

Curriculum coherence requires balancing traditional wisdom with contemporary academic standards and manageability by efficiently integrating the IKS into modern education. Disciplines like Vedic mathematics and traditional ecological knowledge demand innovative pedagogical approaches that preserve their integrity while aligning with modern scientific frameworks. It facilitates collaboration among traditional scholars, modern academics, and curriculum developers. Also, equally essential is teacher training, as educators often lack the expertise to teach IKS effectively. There is a possible risk of misrepresentation or oversimplification of subjects like ayurveda and traditional arts. It is essential to address these challenges through structured curricula and specialized training for the authentic inclusion of IKS. It ensures its preservation and relevance in a globalized academic context. Debiprasad Chattopadhyaya states:

> The Indian tradition of scientific inquiry is as old as the Vedas themselves. The Charvaka school of materialism, the atomic theory of Kanada, and the medical treatises of Charaka and Sushruta are all evidence of a rich tradition of rational thought and empirical investigation in ancient India. These traditions were not isolated but were part of a larger intellectual culture that valued both spiritual and material knowledge. (Chattopadhyaya, 1986).

3. Strategies for Integration as per NEP 2020

The curriculum reform envisaged by the National Education Policy (NEP) 2020 aims to integrate the IKS into mainstream education by blending traditional wisdom with modern academic frameworks. Fostering cultural pride and critical thinking requires synchronizing and embedding subjects like Vedic mathematics, ayurveda, and traditional ecological practices into science, mathematics and environmental studies. NEP 2020, emphasizes rigorous research and community collaboration to systematically record and validate oral traditions, indigenous practices and ancient texts to address the problem of documentation gaps. These efforts aim to preserve IKS and establish its scientific credibility to counter misconceptions, enabling its congruous integration into formal education. NEP 2020 envisions a culturally rooted and inclusive education system to honour India's intellectual heritage and simultaneously addressing global challenges by aligning traditional knowledge with modern pedagogy.

A pivotal and key element of NEP 2020's strategy for integrating the IKS is specialized teacher-training. This requires equipping educators with the relevant skills to teach traditional knowledge effectively. Training modules on subjects like ayurveda, yoga, and traditional crafts provide educators with the schemes to incorporate IKS into modern curricula authentically. Also, NEP 2020 emphasizes community involvement, engaging local scholars, artisans, and practitioners in curriculum development ensuring cultural relevance and authenticity. This collaborative approach is to enrich students' learning, empower local communities and above all to sustain India's diverse knowledge traditions. Dr. Kapil Kapoor asserts:

> The Indian Knowledge System is inherently multidisciplinary, integrating science, philosophy, art, and ethics into a cohesive whole. This holistic approach is evident in texts like the Vedas, which are not just religious scriptures but also encyclopaedias of knowledge. The integration of IKS into modern education can help bridge the gap between the sciences and the humanities, fostering a more balanced and inclusive approach to learning. (Kapoor, 2005).

NEP 2020 emphasizes the dexterous use of digital platforms to enhance access to the Indian Knowledge System (IKS) through online courses, video lectures and digital databases. Virtual libraries and interactive platforms can host digitized texts and courses on Sanskrit, classical music and traditional architecture thereby overcoming geographical barriers. NEP 2020 envisions and fosters an inclusive educational framework to preserve India's intellectual heritage while addressing contemporary challenges by integrating digital tools with curriculum reform, research, teacher training and community involvement.

4. Case Studies of IKS Implementation

There are several initiatives across India to successfully integrate the IKS into modern education, showcasing the synergy between traditional wisdom and contemporary learning. Institutions like Banaras Hindu University (BHU) and the All-India Institute of Ayurveda (AIIA) blend ayurveda with modern medical training, fostering holistic healthcare approaches. Similarly, Vedic mathematics is incorporated into STEM education, with schools in Gujarat and Maharashtra introducing programmes to enhance computational skills, while IITs explore its applications in engineering. These initiatives not only preserve India's intellectual heritage but also demonstrate its relevance in addressing modern educational and societal challenges. Dr. Subhash Kak affirms:

> India's contributions to mathematics, astronomy, and linguistics are among the greatest intellectual achievements of humankind. The invention of zero, the development of the decimal system, and the discovery of the Pythagorean theorem in the Sulba Sutras are just a few examples of India's scientific genius. These achievements were not isolated but were part of a larger tradition of inquiry and innovation that continues to inspire us today. (Kak, 1994).

Traditional knowledge systems are progressively integrated into environmental studies to address sustainability challenges. Ancient water conservation methods, such as Rajasthan's stepwells and rainwater harvesting are revived in curricula that offers insights

into hydrology and resource management. Similarly, traditional agricultural practices like organic farming and crop rotation are incorporated as sustainable alternatives to industrial methods. These initiatives emphasize the relevance of the Indian Knowledge System in tackling contemporary issues while enriching education. By integrating ayurveda, Vedic mathematics and ecological knowledge, institutions foster interdisciplinary learning, blending historical wisdom with modern scientific inquiry to create a sustainable and holistic educational framework.

5. The Role of Temples and Women as Centres of Knowledge

Temples in India, historically, were not merely abodes of worship but also vibrant centres of learning. It played a crucial role in preserving and transmitting knowledge across generations. One of their primary functions was to act as educational institutions, where 'gurukuls' and 'pathshalas' were often accommodated within temple premises. These institutions provided holistic education, encompassing scriptures, philosophy, mathematics, astronomy and arts. Students in these gurukuls studied the Vedas, Upanishads and other sacred texts under the guidance of learned scholars, while also gaining practical knowledge in fields like medicine and architecture. The close association of temples with education ensured that knowledge was deeply intertwined with spirituality and ethics, fostering an accomplished intellectual tradition. As Rabindranath Tagore states:

> India's education system was not confined to the four walls of a classroom; it was a way of life. The gurukuls and ashrams were not just schools but centers of holistic learning where students imbibed knowledge of the self, society, and the universe. This system emphasized the harmony of the individual with nature and the cosmos, a concept that is deeply relevant in today's fragmented world. (Tagore, 1961).

Temples also functioned as intellectual hubs preserving and disseminating knowledge through libraries, inscriptions and architectural design. The Saraswathi Mahal Library in Thanjavur, originally part of the Brihadeeswarar Temple complex, contains manuscripts on literature, science and medicine, reflecting the scholarly role of temples. Beyond preservation, these libraries facilitated intellectual exchange among scholars. Inscriptions on temple walls, such as those in Chola temples, recorded mathematical formulas, trade laws, and astronomical data, serving as accessible educational resources. The Konark Sun Temple's alignment with astronomical principles demonstrates the integration of science and spirituality, highlighting temples as centres of interdisciplinary learning and knowledge democratization.

The role of women is often overlooked, who in reality have played a crucial and undeniable role in preserving temple-based knowledge systems, transmitting cultural and practical wisdom through oral traditions, rituals and artistic expressions. The historical documents sufficiently substantiate their role in the dissemination of traditional knowledge. The Devadasi tradition, despite its complexities sustained classical dance and music that are integral to temple rituals. Women also passed down to younger generations knowledge related to herbal medicine, crafts and sustainable agriculture within households, ensuring continuity despite societal changes. Temples as centres of learning, combined educational institutions such as libraries, wall and roof inscriptions along with documenting women's contributions to safeguard India's intellectual heritage. It is imperative to recognize the role of women in preserving IKS. Their incessant devotion to duty and tradition offers invaluable insights for creating inclusive and holistic educational frameworks that can be of immense assistance in bridging traditional wisdom with modern pedagogy. Shakti M. Gupta asserts:

> Women have always played a central role in temple rituals, not just as devotees but as active participants in the preservation of knowledge. From the preparation of sacred offerings to the performance of rituals, women were responsible for maintaining the spiritual and cultural life of the temple. These roles required a deep understanding of religious texts, herbal

> medicine, and culinary arts, making women key figures in the transmission of cultural and spiritual knowledge. The temple was thus a space where women's contributions were both visible and vital. (Gupta, 1971).

6. The Modern Relevance of IKS and NEP 2020

The aim of NEP 2020 is to revitalize India's traditional education system by integrating the IKS into formal education. It also aims to provide a platform for documenting temple manuscripts, folk traditions, and indigenous practices through digitization while embedding IKS into curricula. Various disciplines like Vedic mathematics, yoga, and traditional ecology foster interdisciplinary learning and methodically promote cultural pride and holistic education. Moreover, cultural tourism transforms heritage sites into educational hubs, connecting history with the contemporary, improving sustainability and enhancing economic development. NEP 2020 through systematic documentation, curriculum reform and heritage-based learning, creates an inclusive framework to preserve India's intellectual legacy while addressing contemporary global challenges. Neha Verma aptly states:

> By integrating the Indian Knowledge System (IKS) into mainstream education, NEP 2020 democratizes access to traditional wisdom, making it accessible to students across the country. This approach not only preserves India's heritage but also empowers future generations to draw from the past as they navigate the future. (Verma, 2023).

7. Conclusion

Decolonizing India's education system is one of the primary objectives of the National Education Policy (NEP) 2020. It boldly offers transformative measures to salvage a generation engulfed in colonized era knowledge by ensuring a secured and safe integration of Indian Knowledge System (IKS) and modern education curricula. IKS encompassing ayurveda, Vedic mathematics, and traditional ecological practices offers sustainable, holistic solutions to contemporary challenges. It resolves to take earnest effort to correct the colonial historical mistake of marginalizing the treasure trove of Indian knowledge. The integration of IKS and modern education system fosters cultural identity, critical thinking, and interdisciplinary learning thereby bridging tradition with modernity. However, challenges like documentation gaps, academic scepticism and teacher training must be adeptly addressed for its effective implementation. National Education Policy 2020 aims to create an inclusive, globally relevant educational framework by revitalizing and incorporating IKS eventually preserving India's intellectual heritage and promoting innovation and sustainability.

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