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Incorporation of the Indian Knowledge System into Modern Education: Challenges and Opportunities

Dr. Madhumita Baidya[1], Priyanka Das[2], Mousumi Mahato[3]

[1]Assistant Professor, Department of Education, Sidho-Kanho-Birsha University, Purulia Email ID: madhumita0310.baidya@gmail.com
[2]Research Scholar, Department of Education, Sidho-Kanho-Birsha University, Purulia Email ID: dasp21186@gmail.com
[3]Alumnus, Department of Education, Sidho-Kanho-Birsha University, Purulia Email ID: mahatomousumi071@gmail.com

ABSTRACT

The Indian Knowledge System (IKS) represents a rich repository of indigenous knowledge encompassing philosophy, science, medicine, agriculture, arts, and environmental sustainability. In the context of the National Education Policy (NEP) 2020, the integration of IKS into modern education has gained renewed significance for promoting holistic, value-based, and culturally responsive learning. This paper examines the significance of IKS in contemporary education, identifies the major challenges to its integration, and explores the opportunities it offers for educational transformation. The study is based on a review of relevant literature and policy documents. The findings indicate that IKS contributes to holistic development, critical thinking, ethical values, environmental awareness, interdisciplinary learning, cultural preservation, and practical life skills. However, its effective implementation is constrained by challenges such as inadequate curriculum integration, limited institutional support, insufficient teacher preparation, and the continued dominance of Western educational frameworks. The paper concludes that systematic curriculum reforms, teacher capacity-building programmes, supportive institutional policies, and the development of appropriate learning resources are essential for successfully integrating IKS into the education system. Such efforts can help create an inclusive, sustainable, and culturally grounded educational framework that addresses both national priorities and global educational needs.

Keywords: Indian Knowledge System, Education system, Challenges, Opportunities

Introduction

Education plays a significant role to preserve cultural heritage, develop human values and promote holistic development. Now a days, Indian Knowledge System is considered as a most significant concept in the field of education due to modern scientific approaches and innovative intellectual traditions and changing moral values. In the 21st century education system rapidly transforms due to changing social needs of individuals, technological evolution and globalization. Technologies played an important role in promoting the visibility and relevance of traditional knowledge systems in today's world (Sharma, Mishra, Verma, & Singh, 2020).

NEP2020 mainly focuses to rich intellectual traditions of India by preserving and incorporating in modern education system. According to Sharma and Bodhankar (2021) "Indian Knowledge System refers to the accumulated body of knowledge developed in India as philosophy, mathematics, medicine, astronomy, agriculture, linguistic, arts and environmental sustainability". The inclusion of Indian Knowledge System in the modern education system is very essential because it helps to promote cultural identity ethical values, holistic learning and sustainability in development. There is huge contribution in the field Ayurveda, Yoga, Architecture and mathematics from ancient Indian period (Rao, 2022). But indigenous education system was destroyed due to western educational system. Recently contemporary education system educationist realises the necessity to revive and incorporate indigenous knowledge system with modern scientific and technological education. As a result, today's students become able to develop in depth knowledge about heritage and identity of India. It promotes a vision of society based on fairness, environmental sustainability, and collective well-being, providing a strong civilizational perspective for building an inclusive and sustainable future (Aalap R. Suthar, 2025; Sheikh, 2024). Traditional knowledge with contemporary disciplines can enhance creativity, critical thinking and problem-solving skills while fostering respect for diversity and sustainability. Sustainable environmental practices and community-based learning approaches are possible to enhance through indigenous knowledge (Sen, 2021). Indian Knowledge System not only develop deeper understanding or critical thinking but also develop emotional, moral and spiritual thoughts among them. But there are so many challenges to incorporate IKS into modern education system due to lack of adequate curriculum frameworks and teaching materials. Moreover, teachers are not trained regarding IKS based pedagogical approaches (Patel and Singh, 2023). To fulfil the national and global needs it is very essential to integrate IKS into contemporary education system for the development of sustainable and value based educational system.

Objectives of the Study

1. To explore the significance of the Indian Knowledge System in modern education.
2. To identify the challenges of incorporating the Indian Knowledge System into modern education.
3. To examine the opportunities for incorporating the Indian Knowledge System into modern education.

Review of related literature

Sharma and Bodhankar (2021) investigate the significance of IKS in higher education system. The study observed that IKS enable learners to develop moral values, critical thinking and cultural knowledge. The researchers suggest to integrate IKS into modern discipline.

Rao (2022) examined the relevance of ancient Indian education in the contemporary educational system. They found that ancient Indian institutions majorly focused on interdisciplinary and learner centered approaches. The researcher highlights that there are some significant sustainable living practices like Ayurveda, Yoga, Astronomy and Philosophy.

Sen (2021) studied the relationship between indigenous knowledge and sustainable education practices in India. The researcher explores that traditional ecological knowledge and community-based learning approaches directly and indirectly support environmental sustainability and social harmony. The majorly focus on the integration of indigenous knowledge into curriculum to develop student's environmental ethics and practical life skills.

Kumar and Reddy (2022) conducted a study on students' perceptions regarding the inclusion of IKS in higher education. The researchers found that most of the students showed positive attitudes towards indigenous knowledge in the areas of yoga, traditional medicine, meditation and Indian philosophy.

Das and Mukherjee (2023) investigated the role of teachers in implementing Indian Knowledge System in classroom teaching. The study found that teachers are aware about the educational values of Indian Knowledge System but they are not able to integrate traditional knowledge with modern pedagogical methods for various obstacles. The researchers emphasized the necessity of professional development programmes and multidisciplinary curriculum reconstruction for implementing IKS in education system.

Significance of the Indian Knowledge System in Modern Education

The integration of the Indian Knowledge System into modern education is significant because it offers a unique perspective on knowledge transmission, promote holistic development and foster cultural pride and sustainability. By integrating traditional knowledge alongside modern science and technology, education can become more relevant inclusive and globally competent. Ancient Indian Knowledge System represent a rich repository of sustainable practices that can complement and enhance modern scientific approaches (Agarwal, 2021).

The significance of IKS in modern education are discussed below-

1. Holistic Development

Indian Knowledge System emphasises on holistic approach of learning that encompasses physical, mental and spiritual well-being. It helps learners to understand their place in the world and develop strong sense of identity. Indian Knowledge System emphasis on ethics, respect for culture and value-based education. For physical health and mental well-being IKS promotes some practices such as yoga, meditation, ayurveda and music.

2. Enhanced critical thinking and problem-solving skills

IKS fosters critical thinking and the exploration of multiple perspectives. Students are able to develop a broader world view and a more nuanced understanding to complex issues by studying ancient Indian history. IKS can provide alternative solutions to many contemporary problems. As example, ayurveda may serve as complementary approaches to modern healthcare. Moreover, indigenous water conservation methods, traditional agricultural and rural innovations offer environmentally sustainable and cost-effective solutions.

3. Global competence and Interdisciplinary understanding

Indian Knowledge System enables learners to gather various unique perspectives and competencies that are valued globally. IKS promotes interdisciplinary understanding by integrating traditional knowledge with modern and innovative knowledge. Thus, it helps individuals to develop problem solving skills. IKS promote interdisciplinary learning by linking philosophy with mathematic, spirituality with medicine and music with psychology.

4. Promote inclusive education

The integration of IKS promotes inclusive education system by recognising and valuing indigenous knowledge. It makes education more significant to students' cultural contexts. Indian knowledge system makes bridge to overcome the gap between traditional knowledge system and modern knowledge system which helps learners to gain meaningful and comprehensive educational experience.

5. Culture and Heritage preservation

Culture, history and traditions are main roots of knowledge about country where Indian Knowledge System helps today's generation to remain connected with these roots of knowledge. The students are capable for comparative understanding of other culture. Learners develop pride in their culture and heritage and be aware about their responsibility to preserve it.

6. Environmental awareness and sustainable development

The Indian Knowledge System emphasised on the harmonious coexistence of human and nature. The IKS has significant contribution to environmental protection by providing ancient concept of eco-friendly lifestyle, water management, sustainable agriculture and forest conservation.

7. Ethics and value-based education

Ancient curriculum and scriptures emphasized on truthfulness, self-discipline, compassion and sense of duty. The traditional education contributes to the moral development of students and help to shape responsible citizens. In the contemporary education system, it is crucial thing to implement IKS because technology driven and highly competitive environment overlooked ethical and spiritual education. The IKS promotes individuals' empathy, self-awareness and decision making.

Challenges of incorporating the Indian Knowledge System into Modern Education:

1. **Lack of interdisciplinary and holistic thinking:** IKS emphasis on interdisciplinary approach including science, social science, technology, spirituality and philosophy. But today's educators are unable to relate various disciplines due to lack of knowledge, lack cooperation among teachers and lack time.
2. **Insufficient policy and administrative support:** NEP 2020 clearly mention about the importance of integrating IKS into modern education system but still many institutions are failed to take implementation action for the lack of proper guideline, lack of sufficient funding, lack of proper infrastructure and lack of proper training to deliver IKS based knowledge to learners.
3. **Lack of institutional support:** Majority of institutions are shown no interest to IKS based knowledge due to lack of knowledge and time. Some teachers or students perceive IKS as irrelevant knowledge for the contemporary education and needs. Institutions need to include specific class schedule for IKS content.
4. **Absence of indigenous knowledge in syllabus and curriculum:** One of the major barriers to integrating the Indian Knowledge System into education is its limited representation in school and higher education curricula. Most syllabi emphasize Western knowledge and provide little space for indigenous perspectives, local traditions, and community-based practices. Students remain disconnected from their cultural heritage and local knowledge systems. The lack of indigenous content also reduces opportunities for contextual and experiential learning, making education less relevant to local needs.
5. **Lack of awareness among teachers and students:** Maximum of teachers and students are not familiar with the significance of indigenous knowledge system. Teachers are trained within Western educational paradigms and they have limited knowledge about yoga, ayurveda and Indian philosophy. So that, they have lack of confidence to teach IKS related subjects.
6. **Dominance of a western educational framework:** Todays modern education system is influenced by system of British colonialism education which leading to the marginalization of indigenous practices and cultural traditions.

To examine the opportunities for incorporating the Indian Knowledge System into modern education:

The Indian Knowledge System (IKS) extends far beyond being a reflection of India's ancient heritage. It represents a comprehensive and holistic body of knowledge that addresses the intellectual, ethical, social, environmental, and spiritual dimensions of human life. Inclusion of IKS into contemporary education has the potential to create a more inclusive, value-based, and learner-centred educational system. In addition to acquiring academic knowledge, learners develop self-awareness, cultural appreciation, ethical values, and a deeper sense of responsibility towards society and the environment. These qualities contribute to the holistic development of individuals and prepare them to address contemporary challenges with greater sensitivity and wisdom. Moreover, IKS promotes interdisciplinary learning by connecting traditional knowledge with modern educational practices, thereby enhancing the relevance and applicability of education. Indigenous practices like Yoga and Ayurveda support not only physical health but also mental well-being and a balanced approach to life. The emphasis on experiential learning, practical skills, and self-reliance further aligns education with the needs of the twenty-first century. In the context of the National Education Policy (NEP) 2020, examining the potential benefits of integrating IKS into the education system is of considerable importance for educators, policymakers, and researchers.

The major benefits of this integration are discussed below.

1. Improvement of Teacher–Student relationships: Teacher–student relationships are a key factor in the success of the educational process. The Indian Knowledge System (IKS) into education helps to create a more participatory and supportive learning environment by recognizing students' local knowledge, cultural heritage, and lived experiences. When teachers acknowledge and incorporate these aspects into classroom practices, students tend to

participate more actively in learning and develop stronger trust and respect for their teachers. The traditional Guru–Shishya system offers valuable insights into building meaningful educational relationships. Its emphasis on personal mentoring, self-discipline, mutual respect, and character formation remains relevant in shaping responsible and ethically grounded individuals. In addition, IKS encourages the development of values such as empathy, integrity, self-control, and social responsibility. These qualities contribute to learners' holistic development and complement the academic focus of contemporary education, where value-based learning often receives limited attention.

2. Enhancement of skills and problem-solving abilities: The integration of the Indian Knowledge System (IKS) enhances students' ability to solve problems and make informed decisions by connecting classroom learning with real-life situations. It encourages learners to examine challenges within their local communities and explore solutions by combining traditional wisdom with contemporary scientific knowledge. For instance, students can draw upon indigenous agricultural practices together with modern technologies to develop sustainable strategies for addressing climate-related challenges faced by local farming communities. There are so many practical experiences which helps students to develop analytical thinking, creativity, and the confidence to tackle complex real-world problems. At the same time, it nurtures a sense of social responsibility by encouraging learners to participate in community development initiatives. Whether addressing issues related to sustainable agriculture, water conservation, or public health, IKS enables students to apply their knowledge in meaningful ways that benefit both society and the environment.

3. Acquisition of knowledge about local culture and heritage: India's rich cultural diversity is reflected in its numerous traditions, customs, languages, and indigenous knowledge systems. Integrating the Indian Knowledge System into education enables students to develop a deeper understanding of their cultural identity while fostering respect for the country's diverse heritage. Exposure to local traditions and indigenous practices encourages learners to value, preserve, and promote these cultural resources, thereby contributing to social harmony and cultural continuity. Folk traditions, indigenous art forms, oral narratives, and local history, students gain a meaningful appreciation of their cultural roots. Such experiences not only strengthen their sense of belonging but also cultivate respect for cultural diversity and reinforce a shared sense of national identity. In this way, IKS contributes to the preservation of India's cultural heritage while preparing learners to appreciate and engage with the nation's pluralistic social fabric.

4. Promotion of holistic health and balanced living: Yoga and Ayurveda, two important components of IKS, contribute to maintaining harmony among the body, mind, and spirit. Their incorporation into education can help students cope with stress, anxiety, and physical health issues. Practices such as yoga, meditation, Ayurveda, philosophy, and self-reflection support students' mental, physical, and spiritual development which helps to enhance concentration, patience, emotional stability, and self-confidence

5. Development of self-awareness and innovative thinking: IKS encourages learners to use their experiences and surroundings as sources of knowledge, thereby enhancing creativity and innovation. This aligns with constructivist learning theory, which emphasizes active knowledge construction by learners. For instance, students interested in traditional medicinal practices may combine indigenous healing methods with modern medical knowledge to develop innovative healthcare solutions.

6. Making learning more meaningful and effective: IKS makes learning more meaningful by connecting educational content with students' familiar environments, languages, and experiences. Learners can better understand concepts when they are presented through local examples, such as traditional agricultural practices or indigenous irrigation systems. The inclusion of philosophy, logic, and Upanishadic thought also encourages students to analyze the deeper significance of knowledge rather than relying solely on memorization.

7. Development of environmental consciousness: Indian knowledge traditions view nature as sacred and emphasize harmonious coexistence with the environment. Such perspectives nurture environmental awareness and sustainable attitudes among students. Indigenous knowledge related to water conservation, agriculture, architecture, and ecological balance can help learners to understand and address contemporary environmental challenges.

8. Connecting education with life: The Indian Knowledge System (IKS) emphasizes learning that is closely connected to everyday life and real-world experiences. It promotes a practical and meaningful approach to education by engaging learners in the areas of agriculture, traditional crafts, health-related practices, and community participation. Through these experiences, students can acquire valuable skills that enhance their employability while also developing a deeper understanding of the social and cultural dimensions of life. IKS encourages learners to reflect on their experiences, question existing assumptions, and explore new ideas.

9.Development of moral and humanistic values: IKS contains rich ethical teachings that promote moral values, self-discipline, empathy, tolerance, and social responsibility. Philosophical traditions found in the Upanishads, Buddhism, and Jainism provide valuable insights into ethical living and character formation. These traditions help cultivate value-based lifestyles and responsible citizenship among learners.

Conclusion

The integration of the Indian Knowledge System into modern education offers a meaningful opportunity to enrich teaching and learning by combining traditional wisdom with contemporary knowledge. IKS promotes holistic development, strengthens critical and creative thinking, nurtures ethical and humanistic values, and encourages environmental responsibility and cultural awareness. At the same time, it equips learners with practical skills and a deeper understanding of their social and cultural contexts. The successful implementation of IKS remains challenging due to limited curriculum integration, inadequate teacher preparation, insufficient institutional support, and the continued dominance of Western educational perspectives. Addressing these barriers requires coordinated efforts from policymakers, curriculum developers, educational institutions, and teacher educators. Revising curricula, developing quality teaching-learning resources, and providing professional training on IKS-based pedagogy are essential steps toward effective implementation. Integration of IKS can contribute to building an education system that is inclusive, value-oriented, culturally rooted, and globally

relevant. Such an approach will not only preserve India's rich intellectual heritage but also prepare learners to respond effectively to the social, environmental, and technological challenges of the twenty-first century.

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