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Identifying the Challenges and Opportunities Associated with Integrating Indian Knowledge Systems in School Curriculum under NEP 2020

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Abstract

The National Education Policy (NEP) 2020 emphasizes the inclusion of Indian Knowledge Systems (IKS) in school education to promote holistic and culturally grounded learning. This study explores the challenges and opportunities associated with integrating IKS into the school curriculum. Adopting a qualitative exploratory approach, the paper analyzes policy documents and existing literature. The findings indicate that while IKS integration can enhance interdisciplinary learning, cultural identity, and sustainability awareness, it is constrained by factors such as lack of teacher preparedness, limited resources, and curriculum overload. The study suggests that effective implementation requires structured teacher training, contextual curriculum design, and institutional support.

Keywords: Indian Knowledge Systems, NEP 2020, Curriculum Integration, Holistic Education, Indigenous Knowledge

Introduction

Education is not only a means of acquiring knowledge but also a process of cultural transmission and value formation. In India, the introduction of the National Education Policy (NEP) 2020 has re-emphasized the importance of integrating Indian Knowledge Systems (IKS) into school education. IKS includes diverse domains such as philosophy, mathematics, medicine, environmental knowledge, and arts, developed over centuries (Kapoor, 2021).

NEP 2020 envisions an education system that is rooted in Indian ethos while remaining globally relevant (Ministry of Education, 2020). However, integrating IKS into the formal curriculum requires careful planning, as it involves both structural and pedagogical shifts. This paper attempts to identify the key opportunities and challenges associated with this integration.

Rationale of the Study

The integration of Indian Knowledge Systems (IKS) into the school curriculum holds immense significance in the present educational landscape of India. An education system rooted in its own cultural and intellectual traditions not only strengthens the identity of the learner but also enriches the quality of learning.

The Government of India has introduced several progressive steps such as the National Education Policy

2020 to revitalise IKS in formal education. The Government of Rajasthan has also initiated measures to promote indigenous knowledge and values through educational institutions. However, for any policy to be truly effective, it is important that teachers are adequately aware of its provisions, trained to implement them, and supported through appropriate resources and institutional frameworks.

This study therefore aims to explore the real ground-level situation by examining the awareness, readiness, and perceptions of teachers regarding IKS integration in schools. The findings will help in identifying practical pathways to strengthen policy implementation and curriculum design in line with the vision of NEP 2020.

Understanding IKS in the Context of NEP 2020

Indian Knowledge Systems are inherently holistic and interdisciplinary. They emphasize experiential learning and the interconnectedness of different domains of knowledge. Unlike conventional subject-based learning, IKS promotes a more integrated understanding of concepts.

NEP 2020 supports this perspective by encouraging experiential and inquiry-based learning, inclusion of local and indigenous knowledge, and multidisciplinary approaches in curriculum design. This alignment creates a strong foundation for integrating IKS into school education.

Opportunities of Integrating IKS

The integration of IKS offers multiple benefits that can transform the learning experience. One of the key opportunities is the promotion of holistic development. By addressing cognitive, emotional, and ethical dimensions, IKS aligns with the broader goals of education (Kapoor, 2021).

It also plays an important role in strengthening cultural identity. Students develop a deeper understanding of their heritage, which fosters confidence and a sense of belonging (Sen, 2005). This is particularly relevant in the context of globalization.

Major opportunities include holistic learning that integrates intellectual and ethical development, cultural rootedness and preservation of indigenous traditions, interdisciplinary understanding across subjects, promotion of sustainability especially through traditional ecological knowledge, and enhanced critical thinking through philosophical and logical traditions. In addition, IKS makes learning more relatable by connecting theoretical knowledge with real-life practices (Mishra, 2021).

Challenges in Integrating IKS

Despite its potential, the integration of IKS into school curricula is not without challenges. A major issue is the lack of teacher preparedness. Many educators are not adequately trained to incorporate IKS into their teaching practices (Sharma, 2019).

Another concern is the availability of structured and reliable content. Much of the traditional knowledge is either scattered or not adapted for school-level understanding. This creates difficulties in designing curriculum materials. Key challenges include insufficient teacher training and awareness, lack of standardized teaching resources, curriculum overload and time constraints, language barriers especially with classical texts, and risk of misinterpretation or non-scientific presentation. These challenges indicate that integration must be approached carefully to ensure both accuracy and effectiveness.

Review of Related Literature

1. Dharampal (1983) conducted a historical and documentary analysis of indigenous Indian education systems using archival records and colonial reports. His study revealed that traditional education in India was widely prevalent and community-supported, with a strong focus on practical knowledge and skill-based learning. The findings indicated that education was accessible to different sections of society and closely linked with daily life, suggesting that Indian Knowledge Systems were both functional and contextually relevant.

2. Sen (2005) adopted a philosophical and analytical approach to examine India's intellectual traditions. Through interpretative analysis of historical texts and cultural discourse, he highlighted that Indian traditions promote reasoning, debate, and critical inquiry. The study emphasized that exposure to such traditions enhances analytical thinking and value-based understanding, which are essential for modern education.

3. Sharma (2019) used a descriptive survey method to study the integration of traditional knowledge in contemporary classrooms. The data collected from

teachers indicated that a majority of respondents faced challenges such as lack of training (around 70%), insufficient teaching resources, and difficulty in classroom implementation. The study concluded that despite positive attitudes toward traditional knowledge, practical barriers limit its effective use.

4. Mishra (2021) conducted a conceptual and analytical study based on secondary data sources, including policy documents and research articles. The study found that Indian Knowledge Systems promote interdisciplinary learning, creativity, and problem-solving skills. It also suggested that integrating IKS can improve students' engagement by connecting theoretical knowledge with real-life experiences.

5. NITI Aayog (2021) presented a policy-based report using secondary data analysis and expert consultations. The report highlighted that the revival of Indian Knowledge Systems requires systematic efforts such as curriculum redesign, teacher training programs, and institutional support. It emphasized that without proper implementation strategies, the potential benefits of IKS may not be fully realized.

Analysis of Reviews of Literature

The review of related literature provides a clear understanding of both the potential and the challenges associated with integrating Indian Knowledge Systems (IKS) into modern education.

A common theme emerging from the literature is that IKS has a strong foundation in experiential, holistic, and context-based learning. Studies by Dharampal (1983) and Sen (2005) highlight that traditional Indian knowledge promotes critical thinking, ethical values, and intellectual development. This indicates that IKS can significantly enrich the quality of education by going beyond rote learning.

At the same time, contemporary research such as Sharma (2019) points out practical challenges in implementation. These include lack of teacher preparedness, absence of structured curriculum materials, and difficulty in adapting traditional knowledge to modern classroom settings. This shows that while the concept is strong, execution remains a concern.

Further, studies like Mishra (2021) and reports by NITI Aayog (2021) emphasize the transformative potential of IKS in promoting interdisciplinary learning and innovation. They also underline the need for policy support, curriculum redesign, and teacher training to make integration effective.

Overall, the analysis of literature suggests that Indian Knowledge Systems have immense educational value, but their successful integration depends on systematic planning, teacher capacity building, and institutional support. These insights form the basis for the present study and justify the need to explore teachers' perceptions regarding IKS integration under NEP 2020.

Research Gaps

The review of related literature identified two key gaps that the present study seeks to address:

(i) Limited primary research assessing ground-level perceptions of school teachers regarding the

simultaneous challenges and opportunities of IKS integration under NEP 2020 in a single study;

(ii) No study specifically linking the implementation barriers of IKS integration to the practical realities of school teachers in Jaipur district, Rajasthan.

Statement of the Problem

"A Study of Challenges and Opportunities Associated with Integrating Indian Knowledge Systems in School Curriculum under NEP 2020 with Special Reference to Teachers of Jaipur District, Rajasthan."

Research Questions

1. What are the major challenges faced by teachers in integrating Indian Knowledge Systems into school curriculum?
2. What are the key opportunities associated with IKS integration in school education under NEP 2020?
3. What is the level of teacher preparedness and training available for effective IKS integration?

Objectives of the Study

1. To identify the challenges in integrating Indian Knowledge Systems into school curriculum.
2. To examine the opportunities associated with IKS integration.
3. To analyze teachers' perceptions regarding feasibility and implementation.

Research Methodology

Research Design

The present study is based on a descriptive survey method. Data was collected from 200 teachers using a structured questionnaire focusing on challenges and opportunities related to IKS integration.

Population and Sample

The target population for the present study comprised school teachers working in government and private schools in Jaipur district, Rajasthan. A total of 200 teachers were selected using the purposive sampling technique. This method was considered appropriate as it enabled the researcher to select respondents having direct experience with curriculum implementation and capable of providing relevant insights on IKS integration.

The purposive sampling technique was considered suitable for the present study as it enabled the researcher to select respondents who had practical experience with classroom teaching and curriculum delivery.

The following criteria were used for selection of respondents:

Teachers currently employed in schools of Jaipur district
Affiliated to CBSE, RBSE, or other recognised boards

Willing to participate voluntarily

Able to provide relevant information regarding IKS integration

The researcher personally approached respondents in selected schools and explained the purpose of the study before data collection. Equal representation of

government and private school teachers was maintained to facilitate comparative analysis in line with the objectives of the study.

Parameter	Details
Sample Size	200 Teachers
Tool Used	Self-structured Questionnaire
Method of Analysis	Percentage Method

Table 1: Research Design Parameters

Research Tool

The primary tool used for data collection in the present study structured questionnaire developed by the researcher. The questionnaire was divided into the following sections:

- Personal information of respondents
- Awareness and understanding of Indian Knowledge Systems
- Perception regarding opportunities of IKS integration
- Challenges and barriers faced in implementation
- Opinions related to teacher training and NEP 2020 implementation

Validity of the Tool

The questionnaire was validated by five subject experts in the field of Education and Indian Knowledge Systems. They examined the tool based on relevance, clarity, and comprehensiveness of items. Based on their suggestions, necessary modifications were incorporated to improve the quality and accuracy of the instrument.

Reliability of the Tool

The reliability of the tool was tested using the Test-Retest Method ($r = 0.82$) and Cronbach Alpha ($\alpha = 0.79$). These values confirmed that the tool was highly reliable and suitable for the purpose of the present study.

Data Collection

The data for the present study were collected between January 2025 and March 2025. The researcher personally visited selected schools in Jaipur district to administer the questionnaire. Prior permission was obtained from school principals and authorities. Respondents were briefed about the purpose and confidentiality of the study before data collection began.

Techniques of Analysis

The collected data were analysed using both quantitative and qualitative methods.

A. Quantitative Analysis

The quantitative data were analysed using frequency (number of responses) and percentage (for comparison across different categories of teachers). Tables and bar graphs were used to present the findings clearly and systematically.

B. Qualitative Analysis

The qualitative data obtained from open-ended questions were analysed by carefully reading responses, grouping similar themes, and interpreting findings in the context of research objectives. "The use of both quantitative and qualitative methods provided a comprehensive understanding of the research problem."

Data Analysis and Interpretation

The analysis of responses indicates that teachers generally hold a positive yet cautious attitude towards the integration of Indian Knowledge Systems.

A large proportion of respondents (around 80%) believe (160 out of 200 respondents) that IKS integration is feasible either fully or to some extent. This reflects acceptance of the concept; however, it also indicates that implementation is not perceived as entirely easy.

The study identifies lack of teacher training as the most significant challenge. Teachers also reported issues such as lack of teaching resources, time constraints, and curriculum-related difficulties. Additionally, many teachers face difficulty in connecting IKS concepts with modern subjects like Science and Mathematics, which highlights the need for interdisciplinary approaches.

In terms of student engagement, the responses indicate that students show moderate interest in IKS-based content. This suggests that while the concept is promising, the effectiveness depends largely on teaching methods.

At the same time, the data highlights strong opportunities associated with IKS integration. A majority of teachers believe that IKS enhances critical thinking and creativity, promotes cultural awareness and values, and supports holistic and interdisciplinary learning. Overall, teachers recognize that IKS provides multiple educational benefits, although its implementation requires proper support and planning.

Graphical Representation and Interpretation

The graphical presentation of data provides a clearer understanding of respondents' opinions regarding the integration of Indian Knowledge Systems (IKS) in school curriculum under NEP 2020. Since the study included 200 teacher respondents, the data has been represented through bar graphs for better interpretation.

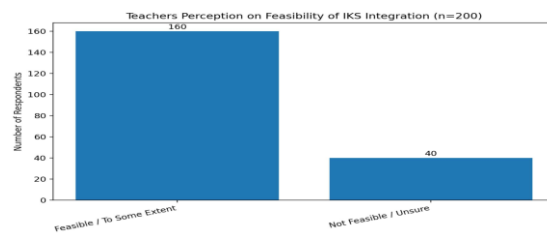
The graphs reflect teachers' perceptions about feasibility, challenges, and implementation issues related to IKS integration. Visual representation helps in identifying major trends, dominant responses, and practical concerns more effectively than numerical data alone.

Graph 1: Teachers' Perception regarding Feasibility of IKS Integration

This graph shows that out of 200 respondents, approximately 160 teachers (80%) believe that IKS integration is feasible either fully or to some extent, whereas only 40 teachers (20%) expressed uncertainty or negative opinion.

Response Category	Number of Respondents	Percentage (%)
Feasible / To Some Extent	160	80.0
Not Feasible / Unsure	40	20.0
Total	200	100.0

Table 2: Teachers' Perception on Feasibility of IKS Integration (n=200)



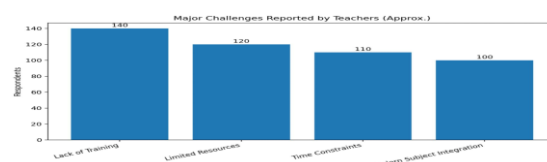
Interpretation: The graph clearly indicates a positive attitude among teachers toward the inclusion of Indian Knowledge Systems in school curriculum. It reflects acceptance of the concept and willingness among educators to support culturally rooted education. However, a smaller percentage of teachers still require clarity, training, and confidence regarding implementation.

Graph 2: Major Challenges in Implementing IKS

The second graph presents the key barriers faced by teachers during implementation.

Challenge Identified	Number of Respondents	Percentage (%)
Lack of Teacher Training	140	70.0
Limited Resources	120	60.0
Time Constraints	110	55.0
Difficulty Linking with Modern Subjects	100	50.0

Table 3: Major Challenges Reported by Teachers (n=200)



Interpretation: The graph reveals that lack of teacher training is the most serious challenge. Many teachers feel that without proper orientation and pedagogical support, effective implementation may remain difficult. Resource shortage and curriculum burden are also

significant barriers. Therefore, capacity-building programs and curriculum redesign are necessary.

Key Findings

Finding 1: Teachers perceive IKS integration as feasible but challenging. Out of 200 respondents, 160 (80%) supported feasibility either fully or to some extent.

Finding 2: Lack of training is the most significant barrier, reported by 140 respondents (70%). This is the primary obstacle to effective IKS integration in school classrooms.

Finding 3: Difficulty exists in integrating IKS with modern subjects like Science and Mathematics, highlighting the need for interdisciplinary teaching approaches.

Finding 4: Students show moderate interest in IKS-based content, indicating scope for improvement through engaging pedagogical methods.

Finding 5: IKS significantly promotes cultural awareness and values. A majority of teachers recognize its contribution to holistic development and critical thinking.

Finding 6: Teachers recognize multiple educational benefits of IKS, especially its potential for holistic, interdisciplinary, and culturally grounded education.

Educational Implications

The findings of the study carry important educational implications. Teacher education institutions should include IKS-oriented training modules in their B.Ed. and M.Ed. programmes to build the pedagogical capacity of future educators. Curriculum developers should integrate IKS in age-appropriate and scientifically grounded ways to ensure both accuracy and accessibility.

Schools should use interdisciplinary methods for linking IKS with Science, Mathematics, and Social Studies, enabling students to appreciate the connections between traditional knowledge and contemporary subjects. Students can develop cultural awareness, ethical values, and critical thinking through meaningful engagement with IKS. Policy makers must provide adequate learning resources, workshops, and institutional support to enable effective implementation at scale.

Suggestions

Based on the findings of the present study, the following suggestions are offered to various stakeholders to facilitate the effective integration of Indian Knowledge Systems in school curriculum under NEP 2020:

For Policy Makers

Develop and implement a comprehensive national framework for IKS integration that provides clear guidelines, resources, and accountability measures at the school level. Establish dedicated funding streams for IKS curriculum development, teacher training, and creation of contextually relevant teaching-learning materials across states.

For Scheme Administrators

Organise district-level orientation workshops where IKS experts interact directly with school administrators and teachers. Create mobile IKS resource units capable of visiting schools and providing hands-on training in

traditional practices, pedagogy, and curriculum mapping related to Indian Knowledge Systems.

For Educational Institutions:

Introduce IKS-oriented pedagogy as a compulsory module in all teacher education programmes. Establish IKS resource centres in schools to make relevant teaching materials easily accessible. Scholarship facilitation desks should proactively guide students to explore IKS-related career and academic pathways.

Results of the Study

The results of the present study are summarized as follows: a majority of teachers support IKS integration under NEP 2020, and teachers believe IKS promotes holistic learning encompassing cognitive, emotional, and ethical dimensions. Cultural awareness and values can be significantly strengthened through IKS. Training remains the biggest implementation need, identified by 70% of respondents. Students show moderate but promising interest in IKS-based content. Proper planning and institutional support can make IKS highly successful under NEP 2020.

Conclusion

The study concludes that the integration of Indian Knowledge Systems into school curriculum under NEP 2020 is both promising and challenging. While teachers acknowledge its potential in enhancing holistic development, cultural awareness, and critical thinking, practical barriers such as lack of training, limited resources, and curriculum constraints hinder its effective implementation.

Therefore, successful integration of IKS requires structured teacher training programs, development of appropriate teaching resources, and adoption of interdisciplinary teaching approaches. With proper planning and institutional support, IKS can play a transformative role in improving the quality and relevance of education in India. The policy vision of NEP 2020 for culturally rooted yet globally relevant education can be realized only when the ground-level facilitation matches the aspiration of the policy framework.

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